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OF

TUBERCULOSIS

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EDITORIAL.

TUBERCULOSIS—AN INTERNATIONAL PROBLEM.

TUBERCULOSIS is a malady met with in almost all countries. It is, in a measure at least, a product of an ill-ordered civilization. Among the medico-sociological problems for which civilized States are being driven to seek solutions, tuberculosis stands out the most prominent. By its ravages incalculable disaster and distress are brought to the individual, his family, and his associates. And through its crippling and death-dealing influences the community is hindered and hampered and heavily burdened. Of recent years the nations of the earth have awakened to the necessity for an organized and scientifically directed campaign against this common enemy of mankind. In America, and in this country and its colonies and dependencies, and throughout the greater part of Europe, beginnings have at least been made. Experiments, many and varied, are being conducted by individuals, communities, and States. Much time and thought, strength and money, are, however, still being squandered by the lack of proper co-operation and co-ordination among those who are all aiming for the same goal. In the study and arrest of tuberculosis international action is essential. Many difficulties stand in the way, but for the sake of the common weal attempts must be made to overcome them. Something is being accomplished. The records of experiments undertaken by various countries are now to some extent available. An International Anti-Tuberculosis Association, through its conferences and by its publications, has shown that nothing but benefit can accrue from a free

exchange of thought and information between peoples sundered by race and language, custom and distance. In view of the forthcoming International Congress on Tuberculosis at Washington, when the English-speaking peoples will have an opportunity of taking part in fraternal discussion with representatives from all lands, it is specially desirable that the necessity for a continuous interchange between all engaged in the conduct of the anti-tuberculosis conflict should be realized and arranged for. In furtherance of this purpose we would draw special attention to the informing articles on the progress of the Anti-Tuberculosis Movement in Sweden, France, and Finland, which through the kindness of our experienced contributors we are able to present in this number. We have recently had the opportunity of studying something of anti-tuberculosis methods pursued in Norway, Sweden, and Denmark, and we would specially commend the admirable work which has been, and is being, accomplished in those progressive countries. They have much to teach us, and we may well be willing to learn. It is desirable that in such a cosmopolitan centre as London an International Institute of Tuberculosis should be established, where all information relating to the work of investigators and administrators dealing with the problem in this and other lands could be freely accessible to every student, and from which the co-ordinated wisdom of the world on all matters relating to tuberculosis might be distributed to all nations. Here is an object worthy the attention and support of a millionaire having world-wide sympathies. The forthcoming International Congress on Tuberculosis to be held in September at Washington should do much to further that loyal and enthusiastic co-operation among the nations, without which the coming of knowledge must linger and works of wisdom remain unperformed.

THE CONSUMPTIVE SOLDIER.

In our last number we dealt specially with the prevalence and importance of Tuberculosis in the Navy and Army. We are particularly glad, therefore, to welcome the report recently issued by the War Office Committee on the treatment of soldiers invalidated for tuberculosis. In the opinion of the committee there are three practicable methods of dealing with the problem: (1) To continue the present method—viz., to discharge at once from the army any man who is diagnosed as suffering from tubercle of the lung, to discharge him from hospital as soon as he is fit to travel, and afterwards to disown all responsibility for him. (2) To provide a special central military sanatorium for tuberculous patients, to which all soldiers suffering from the disease should be sent for treatment. (3) To make use of existing civil sanatoria in all parts of

the country by reserving in each a number of beds at the expense of the army funds, and by transferring soldiers who are suspected of having the disease to the available institution nearest to their own homes. The last method is wisely advocated as likely to prove the most advantageous. The average number of soldiers invalided annually for pulmonary tuberculosis is about 400. On the supposition that at least 200 beds will be required, and that each will cost 30s. a week, it is estimated that the total expenditure will not be more than £20,000 a year. Whatever the cost, it will certainly be the wisest, cheapest, and most humane course to prevent the consumptive soldier from being turned adrift among the civil population, a menace to many and a misery to himself.

TUBERCULOSIS EXHIBITIONS.

In the face of so universal a foe to humanity as tuberculosis, it is not surprising that much originality of thought and ingenuity of enterprise should be manifested. New educational methods, especially, are being tried, and certainly in some lands seem to be meeting with conspicuous success. Foremost among novel measures for securing the instruction of the public are Tuberculosis Exhibitions. We have recently visited the instructive display of tuberculous specimens and anti-tuberculosis appliances open to the working classes of Stockholm. In connexion with this exhibition in the Swedish capital demonstrations are given by medical men. Such a practical method of imparting instruction is clearly the outcome of real insight and foresight. Our American confrères have developed the Tuberculosis Exhibition to a high level of perfection. The Boston Association for the Relief and Control of Tuberculosis, for example, have arranged a travelling exhibit of maps, charts, models of tents and shacks, sanatoria buildings, photographs and models of consumption-breeding tenements, and also of inexpensive model housing conditions. This exhibition, accompanied by a set of 200 stereoptical slides, has visited in the course of a year fifteen American cities, and been visited by 92,000 persons. Where personal demonstrations are not available, an Edison phonograph imparts instruction to the visitors. Wherever the exhibition has gone, a great impetus has been given to anti-tuberculosis work. Encouraged by the conspicuous success of the large exhibitions, our unconventional but eminently practical cousins are organizing "parlour exhibits," which can be lent to public libraries, settlements, church clubs, and similar organizations. The far-reaching usefulness of the Tuberculosis Exhibition as a comparatively inexpensive method of imparting real instruction, and affording effective assistance in the campaign against consumption has been so

abundantly demonstrated not only in America, Scandinavia, and elsewhere, but also in the chief towns of Ireland, that we are desirous of seeing this method of exposition adequately presented in the metropolis and throughout all the cities of the British Empire.

THE INSTRUCTION OF THE CONSUMPTIVE.

One of the surest means for securing the diminution of tuberculosis may be attained by providing instruction for the consumptive. As long as pulmonary tuberculosis was allowed to rank among the hopeless diseases it was generally considered little short of cruelty to inform the sufferer as to the precise nature of his malady. Fortunately for the sake of the patient, and the best interests of the community, such a false position is now being discarded. But still too little attention is devoted to the practical education of tuberculous subjects in those measures which, while supplying the best means of self-help, also afford the most reliable provisions for preventing further spread of the ill. In America much benefit has accrued from the organization of "Tuberculosis Classes." The "class method" certainly supplies an opportunity for imparting sound instruction and helpful direction to many a poor consumptive who has to battle against his malady within the limitations of his own all too restricted home. Such a method affords an opportunity by which patients may be brought into personal friendly contact with doctor and nurse and health visitor. In this and other countries anti-tuberculosis educational efforts have provided tracts and placards, lectures and meetings; but useful as these undoubtedly are, they scarcely ensure that individual and detailed instruction which after all is the most effective, and certainly the most lasting. Much good work is being accomplished by "tuberculosis nurses," specially trained women, who undertake the district visitation of consumptive cases, and supervise the "after-care" or "home management" of those who have left the sanatorium or are in attendance at our Consumption Hospitals. It is much to be desired that the out-patient departments of all Hospitals for Consumptives, and every Tuberculosis Dispensary, should devote greater time and care to the instruction of their cases in those principles and practices of hygiene which, after all, afford the most trustworthy means whereby we may attain an effective prophylaxis against tuberculous invasion.

SPECIAL ARTICLES.

THE CRUSADE AGAINST TUBERCULOSIS IN SWEDEN.¹

By DR. B. BUHRE,

Secretary of the Swedish Anti-Tuberculosis Association.

THE vigorous attempt now being made in Sweden to combat tuberculosis on systematic and methodical lines dates back to 1896. In that year the Swedish Medical Society devoted a very thorough consideration to the subject in its various bearings. This resulted in the adoption of several proposals directed towards diminishing the prevalence of the malady throughout the country. The Society laid special stress, among other things, on the need for popularly written pamphlets and other easily accessible literature dealing with tuberculosis. The imperative necessity of erecting a number of sanatoria and nursing homes to which consumptive patients could be sent for thorough and suitable treatment was also insisted on.

The programme for the first phase of the struggle was thus sketched out, and for the realization of the former part of it a prize competition was arranged for. As a result, three exceedingly well-composed, comprehensive, but concise popular pamphlets were awarded prizes. These were printed in large editions, and distributed broadcast among parish and municipal councils, and to schools, lecturing associations, hospitals, dispensaries, and other kindred institutions.

The Establishment of Public Sanatoria.

The attainment of the second desideratum—viz., the establishing of sanatoria for people without means—seemed at first hopelessly remote. It soon proved, however, that this suggestion had taken hold of the minds of people in all walks of life. When King Oscar II., who has, to the profound sorrow of his people, just passed away, celebrated in 1897 the twenty-fifth anniversary of his accession to the throne, he nobly determined to devote the proceeds of the national collection,² which had been made in commemoration of his jubilee, to the erection of public sanatoria for consumptives. The Riksdag, the Swedish

¹ Sweden has an area of 172,875 square miles and a population (1906) of 5,337,055.

² This amounted to about 2,000,000 crowns, a sum equal to £110,000.

Parliament, subsequently voted considerable grants to the same purpose, and in a few years' time three public sanatoria were built and fully equipped with all modern medical and hygienic appliances for dealing with consumptive patients. These establishments are known as Halahult, Hesselby, and Österås popular sanatoria.

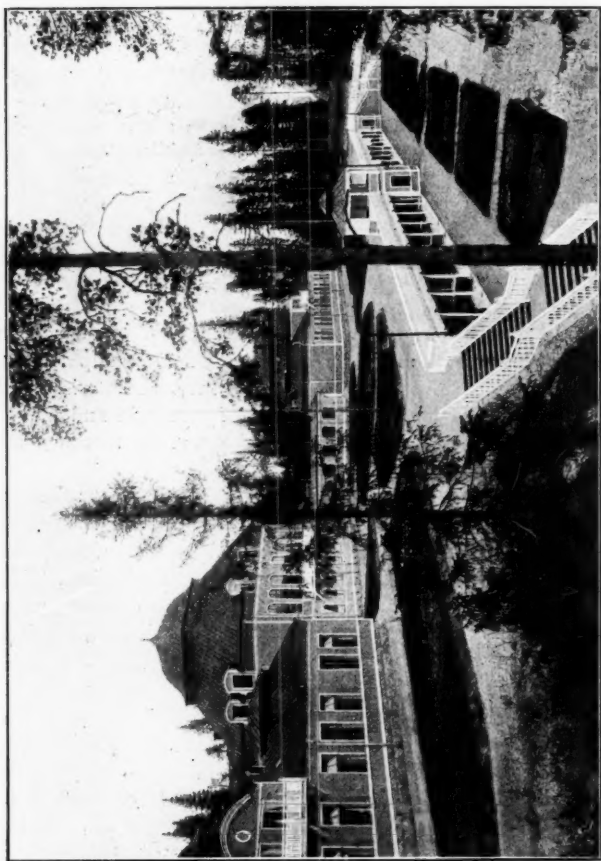


FIG. 1.—THE POPULAR SANATORIUM "ÖSTERÅS" OF "KING OSCAR II.'S JUBILEE FOUNDATION" (GENERAL VIEW).

The Swedish National Anti-Tuberculosis Association.

A good start was thus made, but there still remained a great deal to be done. The spread of information and the erection of sanatoria are, it is true, very important and most necessary weapons for carrying on

the struggle against tuberculosis, but other methods of attack must also be employed if complete and final success is to be ensured. In order to rally all the available forces for the struggle against the common enemy, and to utilize to the full all the resources capable of practical use for combating this disease, which is so widespread



FIG. 2.—THE POPULAR SANATORIUM "ÖSTERÅS" OF "KING OSCAR II.'S JUBILEE FOUNDATION" (VIEW FROM THE OPEN-AIR GALLERY).

throughout Sweden, there was founded in 1904 the Swedish National Anti-Tuberculosis Association. This organization has in the few years of its existence succeeded in bringing organized method and scientifically directed energy to bear on the problem. The present King, Gustav V., then Crown Prince, was graciously pleased to become patron of the Asso-

ciation, and Baron Gustav Tamm, formerly Chancellor of the Exchequer, and formerly Governor-General of the city of Stockholm, was elected its president. The membership of the society grew rapidly from the very beginning, and increased greatly so soon as local interest was stimulated up and down the country by the organizing of district branches of the Association. These were required to contribute only a small percentage of their funds to the central body. The number of members in January, 1905, was 11,225; since then it has risen to 22,712.

Owing to the circumstance that the care of patients in sanatoria had already been entrusted to a perfectly competent and efficient authority—viz., the Board of Management of King Oscar II.'s Public Sanatoria—this part of the work could from the first be excluded from the programme of the National Association.

A multitude of other tasks, however, still remained to be undertaken. The National Association, in accordance with the programme it has set before itself, is concerned with disseminating accurate information regarding the nature of the disease. The Association seeks, furthermore, both by word of mouth and written exhortation, to induce people in authority to recognize the necessity for the erection of nursing homes for consumptive patients on a far larger scale than heretofore; and also seeks to arrange that all modern methods devised for dealing with tuberculous patients shall be thoroughly tested, and then applied so far as seems advisable.

The National Association has endeavoured to fulfil its task of spreading information regarding tuberculosis by arranging for the holding of popular lectures in various parts of the country, and also by the issue of short pamphlets. Up to the present the National Association has arranged for the delivery of 816 lectures on tuberculosis, and these have been attended by about 139,085 persons.

The Work of the Tuberculosis Museum.

In Stockholm the work of spreading information among the people at large on the question of tuberculosis has been greatly furthered by the establishment of a public exhibition of methods for the protection of working people and others from the dangers attaching to occupation and habits of life. The exhibition has been organized by the National Association in conjunction with three other bodies—viz., the Association for the Protection of Workmen, the Central Union for Social Work, and the Central Union for Instruction on Temperance. The exhibition or museum has attracted the attention of the public. This is testified by the fact that, since April 30, 1906, when it was first opened, upwards of 33,000 persons have visited it. The popularity which the enterprise has won made it seem desirable to seize the opportunity thus presented of spreading knowledge regarding tuberculosis among

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the people of Stockholm, and therefore it has been arranged that on the three days in the week on which the exhibition is open free of charge



FIG. 3.—ARRANGEMENT FOR OPEN-AIR TREATMENT AT HOME (VIEW FROM SIDE).

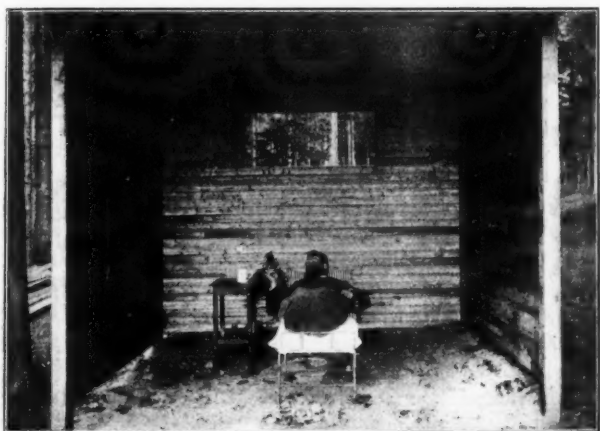


FIG. 4.—ARRANGEMENT FOR OPEN-AIR TREATMENT AT HOME (VIEW FROM FRONT).

it shall be explained and elucidated by a lecture-demonstration delivered by an expert medical man, giving a short survey of the tuberculosis problem.

Several pamphlets have been printed and distributed gratis to the members of the Association, to newspapers, and to institutions and other bodies concerned with the spread of education among the people. As examples, the following may be mentioned: "Advice and Directions for the Proper Treatment of Consumptive Patients in their own Homes," by Dr. J. Tillman; "Tuberculosis and How to Combat it," by Dr. I. Bratt; "The Conqueror of the Universal Ravager," by Harald Östenson. Since 1906 the Association has issued a quarterly journal,¹ containing popular essays on tuberculosis.

The work that has been carried on during the last few years, both by the National Association and other agencies, with a view to spreading information regarding tuberculosis, has, however, as one might almost have expected, called forth in some quarters an irrational dread of tuberculosis and those infected therewith. The danger and inconvenience arising from this undesirable phenomenon have been over-rated rather than the reverse, and we may cherish an assured hope that the work of spreading information on the subject, if pursued prudently and practically, will finally succeed in remedying this evil, too, in our country, as it has done in others.

The Scientific Study of Tuberculosis.

In order to provide opportunities for the younger members of the medical profession to make a thorough study of tuberculosis, its manifestations, and management, six scholarships for doctors have been annually awarded. These enable the holders to go through a two months' course at our public sanatoria. This is an educational movement of the greatest value and service.

The Establishment of Homes for Consumptives.

With a view to remedying as soon as possible the lack of nursing homes for consumptive patients in different stages of the disease, the governing body of the National Association in 1905 appointed a committee of medical men, architects, and other experts, charging them primarily to draw up plans, with detailed descriptions and estimates of cost, for the establishment of hospitals or suitable institutions for these cases.

This committee brought in a report in the spring of 1906.² This contains plans, descriptions, and estimates of cost of about twenty different types of institution for consumptive patients, varying in number of beds from twelve to fifty. No less than 2,000 copies (99 pages, big quarto) of this report have been printed and distributed

¹ *Svenska Nationalföreningens mot Tuberkulos Kvartalsskrift*. Edited by Dr. Sture Carlsson.

² "Tuberkulossjukhus, deras planläggning och uppförande."

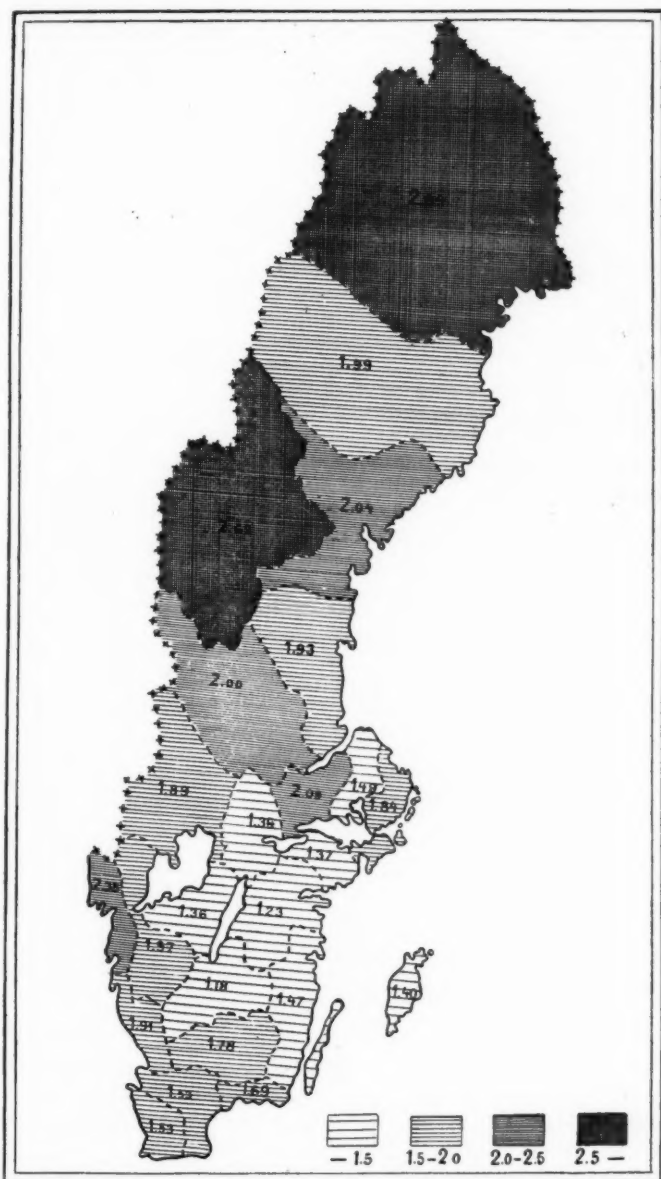


FIG. 5.—MAP OF SWEDEN, INDICATING DEATH-RATES FROM CONSUMPTION OF THE LUNGS PER 1,000 OF THE POPULATION ALIVE IN THE YEAR 1905 IN THE RURAL DISTRICTS.

gratis to the agents of the National Association, to medical officers in towns and rural districts, and to those bodies and private individuals who are known to have been interested in the establishment of these institutions. The report is also on sale in bookshops.

Parliamentary Committee on Tuberculosis.

With a like end in view, the National Association approached the Government on the desirability of appointing a Parliamentary Committee to inquire into the measures that ought to be taken by the Swedish State to check the spread of tuberculosis among human beings throughout the kingdom, the Association offering at the same time to be responsible with 10,000 crowns for cost that might arise in connexion therewith. At the close of 1905 the Government adopted the suggestion thus made, appointing Baron G. Tamm, President of the National Association, to direct the considerations of the Parliamentary Committee. In June, 1907, this Committee completed the first part of its labours, the result being presented in the form of a comprehensive, thorough, and detailed report, comprising fully-worked-out suggestions for the organization requisite for the care of tuberculosis patients, and as to the principles upon which financial support to the same was to be granted by the State.¹

According to the results of the inquiries made by the Committee, there are some 30,000 cases of tuberculosis of the lungs in the country as a whole. Of the rural population there died in 1905 7,206 (*i.e.*, 1.77 per mille), and of the urban population 2,861 (*i.e.*, 2.41 per mille); consequently, for the whole kingdom the total deaths from this disease in that one year were 10,067—*i.e.*, 1.91 per mille of the entire population.

In order to provide the necessary nursing care in sanatoria and other institutions for the numerous patients suffering from this disease, the Committee propose that tuberculosis hospitals shall be erected in various parts of the country, to house an additional 4,600 patients, and that the State shall assist in their support by the formation of a capital fund of 5,000,000 crowns (or about £275,000). From this loans may be made to municipalities and district boards to the amount of half the total cost of the buildings they propose to erect, such loans to be free of interest for the first two years. It is, furthermore, proposed that the State should contribute half of the cost of the care of the patients. This proposal will be laid before Parliament by the Government during the Session of 1908.

¹ "Betänkande och förslag af den utaf Kungl. Majt. den 20 October, 1905, tillsatta kommitte för verkställande af utredning angående åtgärder för människotuberkulosens bekämpande." Stockholm, 1907.

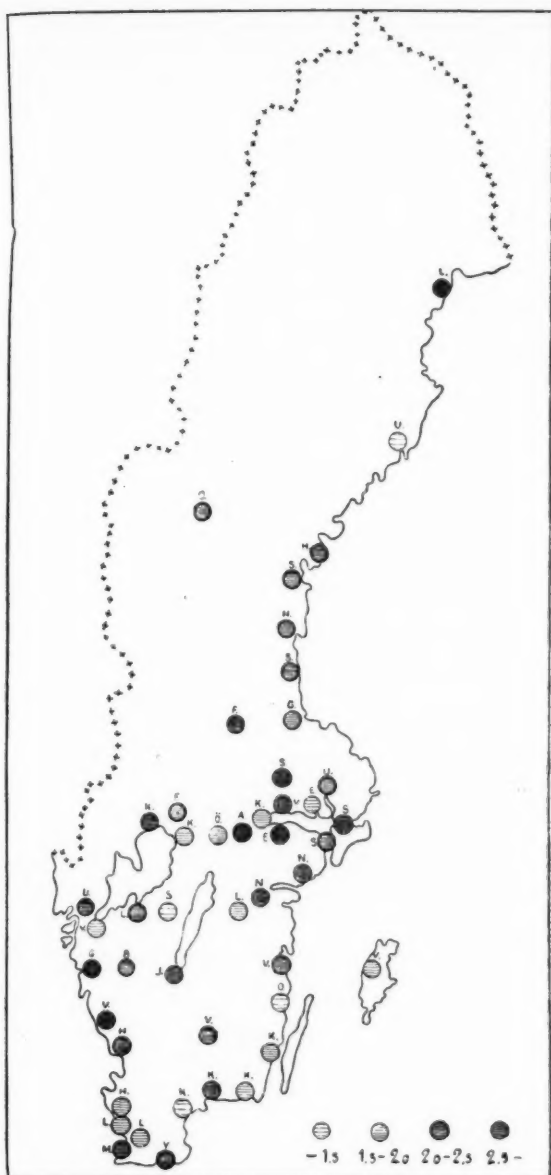


FIG. 6.—MAP OF SWEDEN, INDICATING DEATH-RATES FROM CONSUMPTION OF THE LUNGS PER 1,000 OF THE POPULATION ALIVE IN THE YEAR 1905 IN THE TOWNS.

Anti-Tuberculosis Dispensaries.

Anti-tuberculosis dispensaries have been organized in Stockholm and several other towns, partly by the local authorities and partly on the initiative of the National Association. This remedial measure is to be extended to the rural districts of one of the most populous provinces of the country early in 1908.

The Protection of the Children of Consumptives.

The task of looking after and caring for children of consumptive parents, which was taken up by the National Association early in the year 1906, and for which a grant of 50,000 crowns (or £2,750) was obtained, has been viewed—at least at first—with a good deal of distrust. Though as yet this branch of the work has not been carried out on a very large scale, sufficient has been done to make it clear that this very rational method ought to be vigorously applied in this country, as well as elsewhere. It is, however, in the nature of things that no very great amount of attention can ever be given to it, inasmuch as it is comparatively rare that the children of any parents who are in poor circumstances, and consequently live in cramped surroundings, are found, upon thorough examination, to be wholly exempt from traces of the disease, if their parents are afflicted with it, and, furthermore, the number of cases which might be taken in hand are considerably reduced in number, owing to the very natural dislike felt by parents to hand over their children for the purposes in view.

It would be desirable, however, for this special phase of the work to be continued, if means were forthcoming, in order that at any rate a certain number of the children with the seeds of the disease upon them might be rescued in that way.

The future must show whether, when the method has become better known and tested, confidence in it will increase, and the number of parents who voluntarily surrender their children to its beneficent effects will be more numerous.

The basis upon which we must seek to build must always be the confidence of the parents in the value of the method to be applied; persuasion or compulsion should under no circumstances be resorted to. It has been shown by the experience of the past year that the superintendence of children of consumptive tendencies is most suitably combined with the work carried on by the dispensaries.

Marine stations have also been established for tuberculous children. There is a flourishing seaside sanatorium at Barkåkra.

Social-Hygienic Experiments.

It becomes increasingly clear that the principal efforts put forth to combat tuberculosis should be directed towards protecting the rising

generation from the perils of the disease, for it is most frequently in childhood that the individual acquires the germs of the malady, although many years may pass by before the disease actually comes to light. Consequently, even when a sufficient number of sanatoria and hospitals for consumptives shall have been erected, and when the children of people in poor circumstances who are afflicted with tuberculosis shall have been more generally placed under proper care, it will still be necessary in many cases to adopt measures in the homes of consumptive people to allay the spread of the infection. For it must be remembered that there are often reasons which preclude keeping separate from one another those members of a family who are healthy and those who are diseased—*i.e.*, isolation of the consumptive patients during the period of their illness, which is usually a long one, is not always feasible, and they have, at any rate for part of their time, to be with the rest of their family. It is, however, a certain fact that even in these circumstances, where their poverty and the close quarters in which they live do not actually forbid it, some measure of protection should be provided against the danger of infection. With a view to the investigation and establishment of the best methods for effecting a satisfactory and practical form of nursing of tuberculosis patients in their own homes, the National Association has been carrying out some social-hygienic experiments, as a result of which they hope to discover how a barrier to prevent the transfer of the bacilli to the children may be best set up in the homes of the poor.

Dwellings for Consumptive Workmen.

Since the autumn of 1904 there have been living in a dwelling-house in Stockholm belonging to the National Association a number of working men's families in which either the father or the mother, or both, are sufferers from consumption, but which have healthy children to a total of about thirty. The hygienic arrangements are superintended by a doctor, who has the assistance of a resident nurse. Special care is taken regarding the matter expectorated by the invalids. The sputum is rendered innocuous in the most approved manner. Each invalid is forbidden to sleep in the same room as any of the children, and is, moreover, required to observe certain precautions. Baths are provided free of charge, and also a prescribed quantity of firewood, by way of compensation for any heat in the rooms lost by the more frequent ventilation that is insisted on. In order to make sure that the children shall not be underfed, a substantial meal of porridge or gruel is served out to them daily. The charge made for rent is put at a low figure in consideration of the tenants' diminished power of work. It is too early for any announcement to be made respecting the result of these experiments; but the results so far seem

to show that it is highly desirable that the experiments should be continued on a larger scale. It is a notable fact that no child who has been admitted to the dwelling-house has contracted tuberculosis.

Anti-Tuberculosis Work in the Country Districts.

A similar attempt at testing the applicability of methods has been made in a country district within the bounds of the Neder-Luleå Parish in the Norrbotten Län. The doctor chosen for the task by the National Association took up his residence there in March, 1906, together with two nurses, who were specially trained in the tending of tuberculosis patients. Investigations and the preliminary work were at once commenced. Out of the total population registered as living in the district—2,293 in all—1,498 persons have already been examined. Of the grown-up people, it has been discovered that 14.98 per cent. are palpably affected with tuberculosis of the lungs, 10.31 per cent. with tuberculosis of the glands, and that, besides, 9.55 per cent. are very highly suspected of being afflicted with the tuberculosis taint in one form or another. Among the children below the age of fifteen years, 3.9 per cent. were found to be suffering from tuberculosis of the lungs and 61.87 per cent. from glandular swellings. A small hospital, containing dwelling accommodation for doctors and nurses, a ward for healthy children while under inspection, baths, a clinical surgery, etc., has been erected there. The cost of this experiment is being defrayed by the Grängesberg-Oxelösund Mining Company, Limited, they having voted a sum of 12,000 crowns (£660) a year for eight years for the purpose.

Anti-Tuberculosis Stamps.

The funds of the National Association are wholly dependent upon the generosity of private individuals, either in the form of annual subscriptions and occasional donations, or by the purchase of the so-called "anti-tuberculosis stamps," which are sold at post-offices, etc., at 2 öre (one farthing) a-piece, for affixing on envelopes side by side with the regulation stamps. The total income accruing to the Association from the latter source during the years 1905-1907 was 228,000 crowns (£12,540).

Private Sanatoria for Consumptives.

A by no means insignificant evidence of the attention now being paid to the question of tuberculosis and its arrest may be seen from the fact that two influentially supported companies have been formed for the object of establishing sanatoria of a thoroughly first-rate character for private consumptive patients. Two institutions of this class are already at work, one at Säfsjö, the other at Romanäs. Both are

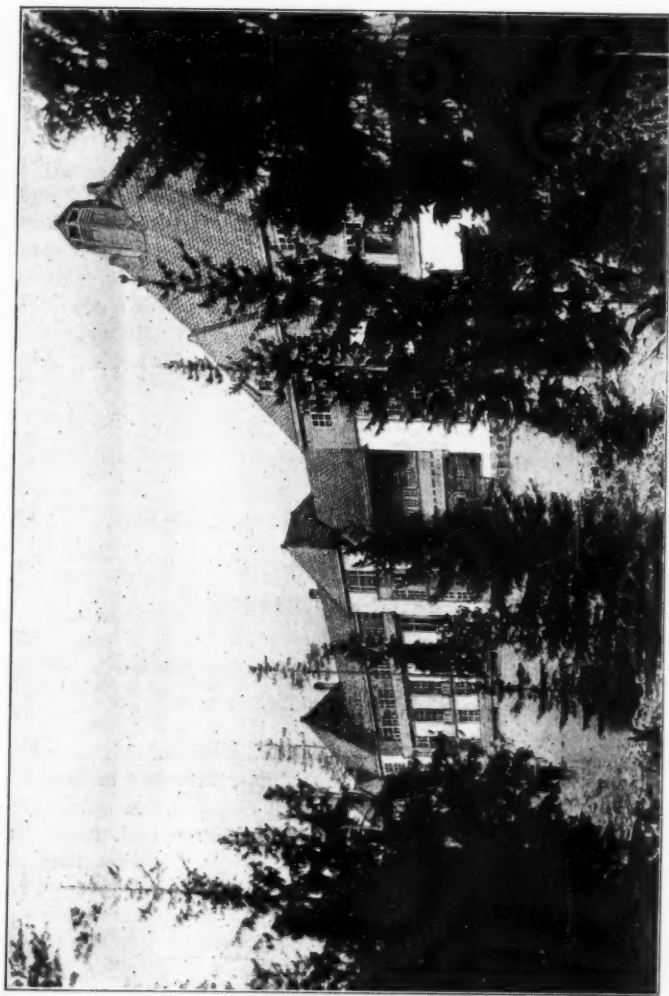


FIG. 7.—THE PRIVATE SANATORIUM "ROMANÅS," BUILT IN 1907 FOR SIXTY PATIENTS (FRONT VIEW).

excellently equipped with every desirable comfort and modern convenience, and are under able medical direction.

The Outlook.

It is become increasingly evident that as a people we are rapidly realizing that from a social and national point of view adequate means must be found to check the ravages of this terrible scourge among the comparatively sparse and scanty population of this extensive country of Sweden. Knowledge is rapidly gaining ground, and the minds of our people generally are being more and more actively engaged in finding means for the application of an effective remedy.¹ In these efforts we have profited much by observing what has been and is being done on the Continent of Europe, and not at least in England. In many respects, however, it is necessary for us to work out our own salvation in this matter along lines specially suited to the peculiar conditions of this country, and to adopt the principles of the anti-tuberculosis struggle, as carried out elsewhere, to our own particular needs. What shall be our measure of success the future will show.

THE ANTI-TUBERCULOSIS MOVEMENT IN FRANCE.²

BY DR. FERNAND BARBARY,

OF NICE,

Member of the International Committee for the War against Tuberculosis; Delegate of the Society for Protection against Tuberculosis; Corresponding Member of the Therapeutical Society of Paris, and of the Medical Society of Paris.

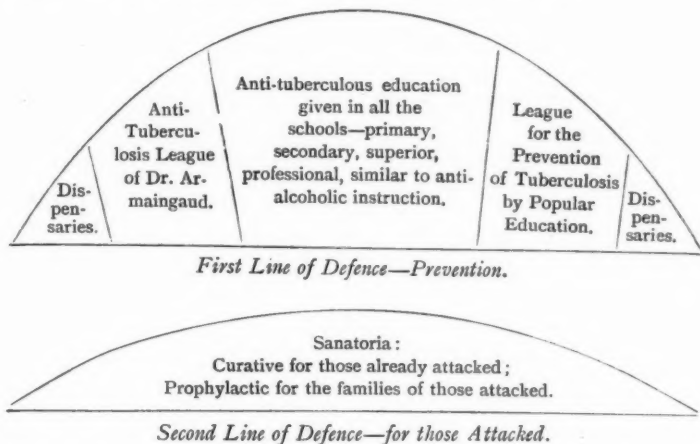
THE beginning of the active campaign against tuberculosis in France dates from the year 1895. Before this time attempts to stay the scourge were isolated, and without general direction. In 1900, under the leadership of such men as Armaingaud, Brouardel, Landouzy, Peyrot, Calmette, Grancher, and Robin, the war became national. At this time 150,000 Frenchmen every year fell victims to tuberculosis. A Commission was then appointed by the Minister of the Interior to study the ætiology and prophylaxis of the disease. Professor Landouzy

¹ The following will be found of service for reference: "La Lutte Contre la Tuberculose en Suède." Upsala, 1905. "Bulletins de la Ligue Nationale Suédoise Contre la Tuberculose." Stockholm, 1906 and 1907. The publications of the Swedish Anti-Tuberculosis Association can be obtained from the Central Offices, 3, Norrlandsgatan, Stockholm.

² We are indebted to Dr. F. Rufenacht Walters, of Crooksbury Sanatorium, for the translation of Dr. Fernand Barbary's informing article.—EDITOR B. J. T.

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had already published a plan of campaign ; this was followed to the letter. It may be reproduced here in diagrammatic form :



DIAGRAMS ILLUSTRATING PLAN OF ANTI-TUBERCULOSIS CAMPAIGN IN FRANCE.

Prophylactic Measures.

I. *The Rôle of Private Societies.*

The fight against tuberculosis became effectual from the day when it became popular. Before 1900 Armaingaud had started the first society, under the name of the "French League against Tuberculosis." But the movement, which is now national in character and conduct, really originated with the "Society for Protection by Popular Education." This body was founded in April, 1900, under the presidency of Professor Peyrot. Its sole object was to spread amongst the public a knowledge of hygiene, individual and collective, which it is every one's interest to follow, and to induce his own family to follow, in order to secure protection against tuberculous infection. The society succeeded in putting a few indispensable ideas into the minds of the many. It told adults and children alike that tuberculosis is communicated by germs mixed with the dust of streets and houses, and that these infecting organisms are present in dried-up sputum. It caused circulars to be distributed and notices to be posted up in public places. These propagandist papers went to workshops, offices, schools, and barracks. The public were also interested and instructed by the holding of conferences. People learnt that they should not spit on the ground, that milk should be boiled, that alcoholism was the purveyor of

tuberculosis. In the schools children received cards and pamphlets telling of the mischief wrought by tuberculosis, and the instruction spread thence to the homes of the people. The "Society for Protection by Popular Education" has its head-quarters in Paris (33, Rue Lafayette). It is composed of active members, paying an annual subscription of 10 francs; life-members, who pay 100 francs and upwards; and philanthropic members, who pay not less than 1,000 francs. Men eminent in science, art, and industrial pursuits belong to the society, which has branches in all the large towns of France. The Secretary-General is Dr. Weill-Mantou.

II. *Rôle of the State and its Municipalities.*

1. *Protection of Infancy.*—The Roussel law has for a long time past protected infancy—(a) by requiring that every woman wishful to be employed as a wet-nurse must pass a medical examination at the local town hall; (b) by regular medical inspection of all women in the country who have charge of infants.

2. *Instruction in Schools.*—In 1902 the Minister of Public Instruction caused to be distributed in all the schools, colleges, and boarding-schools a circular with instructions concerning the prophylaxis of tuberculosis. These instructions had reference to the school itself—the arrangement of rooms, furniture, cleansing, classes, and studies; also to the supervision of teachers, servants, and both resident and non-resident scholars. At the present time for every scholar there is kept an individual record of health, on which are recorded after each medical inspection reports as to chest-girth and the state of the lungs. A watch is thus kept over the earliest indications of any tendency to tuberculosis.

3. *Special Dispensaries* exist in the large towns, and distribute sterilized milk to mothers of the poorer classes. Most of the great industries have such centres. Dispensaries exist at the mines of Auzin, Dourges, Le Creuzot, etc. At such places the elements of hygiene are taught to mothers.

4. *Philanthropic Societies* have done much by providing visits to the country for little town-dwellers. The "Three-Weeks Society" sends children, alone or accompanied by their mothers, for three weeks into the country or to the seaside. Charitable persons pay the cost of such visits, which are estimated at 40 francs for a child or 70 francs for an adult (51, Rue Gide, Lavallois Peret, near Paris).

Societies doing similar work are: "The Society for Holiday Colonies" (Cité Gaillard, Paris); "The Parisian Society for Holiday Colonies" (10, Place Baudoyer, Town Hall of the Fourth Arrondissement, Paris); "The Society for Sending Children to the Mountains" (secretary, M. Comte, 2, Rue Balay, at St. Etienne, Loire); and "The Society for Sunshine" (Rue Torricelli, Paris).

5. *Sanatoria for Children* exist at Ormesson (Seine et Oise), Villiers-sur-Marne, and Hendaye. There are also twenty-four popular marine sanatoria or seaside stations for children, where many tuberculous and tuberculously disposed cases are received.

6. *The Regulation of Post and Telegraph Offices.*—At the Ministry of Posts and Telegraphs the Under-Secretary of State has instructed the General Service of Inspection to visit all the post-offices, and make sure that they are in a proper hygienic state, kept clean, supplied with suitable furniture, and that proper measures of hygiene are adopted for the protection of both the staff and the public.

7. *Precautions in the Army and Navy.*—In the Territorial Army and in the Navy hygienic precautions aiming at the prevention of tuberculosis are taken, under the form of decrees, circulars, and lessons to the soldiers and sailors. The sale of liqueurs called *apéritifs* (bitters, absinthe—in a word, alcohol) is forbidden in the canteens, whilst wine, beer, and tea are authorized. Before arrival at his regiment, a conscript, if suspected of or found liable to tuberculosis, is rejected for a period depending on his state. In the regiment every soldier who shows symptoms of the disease is sent home.

8. *Instruction by Co-operation with Companies and Industrial Works.*—The tramway, omnibus, and railway companies place in their carriages and offices notices pointing out the danger of infection by sputum, and forbidding spitting on the ground.

9. *Improvement of Unhealthy Dwellings.*—Through the efforts of the "Commission for Unhealthy Dwellings," the proprietors are now obliged to supply adequate air, light, and space in the lodgings of workpeople, servants, and hall-porters, who formerly had often been placed in veritable foci for the culture of bacilli, as had been pointed out by M. Juillerat, Chief Officer of the Sanitary Service of the City of Paris.

10. *Notification of Tuberculosis.*—For the last two years the new law on public health places tuberculosis amongst the diseases of which notification is permissive, if not compulsory. In all French towns medical men can require the gratuitous disinfection of any place which has been inhabited by a consumptive.

11. *Supervision of Food.*—Throughout France the health officers have the dairies under their supervision. The milk is examined, and adulteration severely punished. Every cow suspected of tuberculosis is tested with tuberculin, and in the event of a positive result is destroyed, the State compensating the owner. A service of inspection of slaughter-houses prevents the sale for food of any meat with a tuberculous taint. At the School of Veterinary Medicine at Alfort studies relating to bovine tuberculosis are continually being pursued. These were originally started by the lamented Professor Nocard. There is reason to hope that, as a consequence of the researches of Guérin and Calmette, vaccination of young calves against tubercle will

soon be an accomplished fact. On June 11, 1906, these experimenters announced that they had found a bovo-vaccine for tubercle by natural channels.

12. *Provision of Special Hospitals and Isolation Wards for Consumptives.*—In 1906 and 1907 the Prefects of all the departments received ministerial instructions requiring all hospitals to provide a special block, or, failing this, special wards, for the tuberculous, which must be provided with terraces or gardens. The tuberculous patient may no longer remain in the wards with other patients.

Diagnosis.

Means for early diagnosis of tuberculosis are being rigorously sought for. The methods used are often independent of physical signs. We may mention radioscopy, Koch's tuberculin, respiratory exchanges by Robin and Binet's method, and, finally, the ophthamo-reaction. The latter test with tuberculin, according to the method of Calmette, appears to be the best where tuberculosis is undetected by ordinary methods. This ophthamo-reaction permits of early diagnosis in children as well as adults, and is free from danger.

Treatment of the Tuberculous Poor.

France possesses sanatoria, milk dispensaries, places for fresh-air treatment, and the like. All these, their origin and support, are dependent on philanthropic enterprise and effort; the State gives only its moral support.

1. *Dispensaries.*—Professor Calmette is the advocate of the dispensary, or the "preventorium," as he calls it. It is, in the first place, a centre for assistance, food, linen, rent of rooms. In the next place, it is an office whence curable cases can be sent to a sanatorium. And on discharge from the sanatorium the dispensary resumes charge of the patients in order to help them. It also relieves those too ill to profit by the sanatorium.

"The Society for Human Tuberculosis," of which the president is Dr. Bernheim, should also here be mentioned. Other societies have dispensaries in the large towns.

2. *The Popular Societies for Douche-Baths* enable a workman to have a wash for 10 centimes; they also teach him to observe rules of hygiene and of cleanliness. Thus, indirectly they are important factors in aiding the Anti-Tuberculosis Movement.

3. *Societies for Cheap Dwellings* study the ways and means suitable for industrial towns, so as to provide healthy rooms for the working classes.

4. *The Management of Lupus.*—For local tuberculosis, and especially for the treatment of lupus, France has in almost all the large towns establishments where phototherapy is practised according to the method of Finsen.

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5. *Sanatorium Treatment.*—Strict sanatorium treatment (the "closed sanatorium") is indispensable for the poor man, to whom it offers a place of refuge; but in France it has not the same interest for the better classes as in other countries. The temperate climate of most parts of France permits patients with means to carry out hygienic treatment at home in spring and summer, and in winter on the shores of the Riviera.

Space will not allow us to point out in detail the means employed in sanatoria. We may, however, say that physicians undertaking the care of consumptives are making every effort to push forward hygienic treatment by repose, fresh air, sunshine, eating rather than gavage, together with therapeutic treatment. As regards the latter, they have more especially in view treatment directed towards the general state of the soil, glycerine, phosphates, cacodylate of guaiacol, electricity; and, secondly, attention to complications of the larynx, the naso-pharynx, the digestive canal, the circulation, the heart, the arteries, the kidneys, and, indeed, to the bodily condition generally.

The Anti-Tuberculous Movement in France calls for more space than is available in such a short résumé as this. For those who wish to have further information concerning special points, I append in tabular form (*a*) a list of the principal sanatoria, seaside resorts, and dispensaries for poor and dependent consumptives, both children and adults; and (*b*) the titles of special works which have been published lately in France on tuberculosis.

Sanatoria, Hospitals, Dispensaries, etc., for Tuberculosis in France.

SANATORIA FOR POOR ADULTS.

Locality.	Name.	Office Address.	No. of Beds.	Established.
Angicourt (Oise).	Sanatorium of Angicourt.	Angicourt, via Liancourt.	170	1900
Bligny (Seine et Oise).	Sanatorium of Bligny.	56, Rue de Provence, Paris.	160	1903
Montigny en Ostrevent (Nord).	Sanatorium of Montigny.	Montigny en Ostrevent, near Douai.	60	1905
Hauteville (Ain).	Free Sanatorium of Hauteville.	60, Quai de l'Hôpital, Lyon.	110	1900
Pessac, near Bordeaux (Gironde).	Sanatorium of Feuillas.	116, Cours Alsace-Lorraine, Bordeaux.	60	1902
Algiers.	Sanatorium of Algiers.	Dr. Verhaeren, Sanatorium of Algiers.	100	1900
Cimiez, near Nice.	Jewish Sanatorium of Cimiez.	Resident Physician, Sanatorium, Cimiez.	15	1890
Villa Louise, Cannes.	Sanatorium Villa Louise.	Villa Louise, Cannes.	25	1904
Lille (Nord).	Sanatorium of Lille.	Sanatorium Nord, Lille.	being built.	1905
Versailles.	Sanatorium of Versailles.	Versailles, Seine et Oise.	"	1904

SANATORIA FOR CHILDREN OF THE POOR.

Locality.	Name.	Office Address.	No. of Beds.	Established.
Villepinte.	Hospital of Villepinte.	Villepinte, via Sevran, Seine et Oise.	290	1898
Ormesson (Seine et Oise).	Hospital of Ormesson.	Ormesson, Seine et Oise.	130	1888
Villiers-sur-Marne (Marne).	Hospital of Villiers-sur-Marne.	Villiers-sur-Marne.	220	1891

POPULAR MARINE SANATORIA FOR CHILDREN AND ADOLESCENTS.

Locality.	Name.	Office Address.	No. of Beds.	Established.
Malo-les-Bains (Nord).	Hôpital Maritime, Malo les Bains.	Management, Malo-les-Bains, Nord.	40	1900
St. Pol-sur-Mer (Pas de Calais).	Hôpital Maritime, St. Pol-sur-Mer.	The Mayor, St. Pol-sur-Mer.	400	1905
Berck-sur-Mer (Pas de Calais).	Hôpital Maritime, Berck-sur-Mer.	Assistance Publique, Paris.	750	1861
Berck Plage (Pas de Calais).	Hôpital Cazin Perrochaud.	The Matron, at the Hospital.	400	1897
Berck-sur-Mer (Pas de Calais).	Hôpital J. Nathan Rothschild.	The Director of the Hospital.	100	1897
Beuzeval (Calvados).	Maison Évangélique de Beuzeval.	The Director, at Beuzeval.	30	1899
St. Broladre via Dol (Ille et Vilaine).	Hospice St. Joseph, St. Broladre.	Matron of the Hospice.	40	1900
Roscoff (Finistère).	Sanatorium de Roscoff	Sanatorium of Roscoff.	200	1903
Pen Bron, near Le Croisic (Loire Inférieure).	Hôpital Marin de Pen Bron.	Hospital of Pen Bron.	300	1899
Croisic (Loire Inférieure).	Maison St. Jean de Dieu.	Maison de St. Jean de Dieu, Croisic.	300	1900
St. Trojan, Île d'Oleron (Charente Inférieure).	Sanatorium St. Trojan.	Sanatorium St. Trojan.	200	1903
Royan (Charente Inférieure).	Asile de Convalescence, Royan.	Matron, Asylum of Convalescence.	25	1907
Arcachon (Gironde).	Sanatorium of Arcachon.	Dr. Armaingaud, 61, Cours Tourny, Bordeaux.	200	1902
Moulleau via Arcachon (Gironde).	Sanatorium of Moulleau.	Moulleau.	50	1904
Cap Breton (Landes).	Asyle d'Eugénie, Cap Breton.	Matron of the Asylum.	47	1903
Hendaye (Basses Pyrénées).	Sanatorium of Hendaye.	Assistance Publique, Paris.	100	1900
Cerbère (Pyrénées Orientales).	Sanatorium Frères, St. Jean de Dieu.	19, Rue Oudinot, Paris.	34	1902
Banyuls-sur-Mer (Pyrénées Orientales).	Sanatorium of Banyuls.	62, Rue Miromesnil, Paris.	200	1901
Cette (Hérault).	Sanatorium of Cette.	Cette.	450	1903
Giens, near Hyères (Var).	Hôpital Renée Sabran.	Civil Hospices at Lyon.	150	1903
Cannes (Alpes Maritimes).	Hôpital Dolfus, Cannes.	The Director, at Cannes.	45	1900
Montboron-Nice.	Œuvre des Enfants Infirmes.	The Establishment at Montboron.	30	1902

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FREE CLIMATIC AND THERMAL RESORTS FOR CHILDREN.

Locality.	Name.	Office Address.	No. of Beds.	Established.
Forges les Bains (Seine et Oise).	Maison Convalescence, Forges les Bains.	Assistance Publique, Paris.	422	1900
Vialas (Lozère).	Sanatorium Vialas.	The Director at Vialas.	26	1902

AGRICULTURAL COLONIES FOR TUBERCULOUS CONVALESCENTS.

Locality.	Name.	Office Address.	Established.
Noisy le Grand (Seine et Oise).	Œuvre des Colonies Agricoles.	Œuvre des Enfants Tuberculeux, 35, Rue Miromesnil, Paris.	1903
Le Menillet (Oise).	Œuvre des Colonies Agricoles.	Œuvre des Enfants Tuberculeux, 35, Rue Miromesnil, Paris.	1904
Tremilly (Haute Marne).	Œuvre des Colonies Agricoles.	Œuvre des Enfants Tuberculeux, 35, Rue Miromesnil, Paris.	1900
Rongemont (Doubs).	Œuvre des Colonies Agricoles.	Œuvre des Enfants Tuberculeux, 35, Rue Miromesnil, Paris.	1907
Champrosay (Seine et Oise).	Œuvre de Villepinte.	25, Rue Maubeuge, Paris.	1902
Le Cannet (Alpes Maritimes).	Colonie Agricole de Cannes.	Dr. Vaudremer, at Cannes.	1906

RURAL SCHOOL COLONIES.

(Founded by the Municipalities of the Arrondissements of Paris.)

Every Arrondissement has its own colony for boys and girls, which it manages in the country at its own cost.

DISPENSARIES FOR THE TUBERCULOUS.

Locality.	Name.	Office Address.
Montmartre, Paris.	Dispensaire de la Rue Mercadet.	70, Rue de Miromesnil, Paris.
21, Rue de la Boétie, Paris.	Œuvre de Villepinte.	21, Rue de la Boétie, Paris.
17, Rue de la Tour d'Auvergne, Paris.	Œuvre de Villepinte.	21, Rue de la Boétie, Paris.
23, Rue Joubert, Paris.	Œuvre des Tuberculeux Adultes.	Œuvre des Tuberculeux Adultes, Paris.
55, Rue de Sèvres, Paris.	Œuvre des Tuberculeux Adultes.	Tuberculeux Pauvres Adultes, Paris.
63, Rue Vercingetorix, Paris.	Œuvre des Tuberculeux Adultes.	Tuberculeux Pauvres Adultes, Paris.
5, Rue de la Banque, Paris.	Œuvre des Tuberculeux Adultes.	Tuberculeux Pauvres Adultes, Paris.
Dispensary of the Hôpital Beaujon.	Dispensaire Beaujon.	Hôpital Beaujon, Paris.

DISPENSARIES FOR THE TUBERCULOUS—*Continued.*

Locality.	Name.	Office Address.
Dispensaire Roux, Lille.	Dispensaire Roux.	Professor Calmette, Lille.
Bordeaux.	Dispensaire Roux.	Professor Calmette, Lille.
Lyon.	Dispensaire Roux.	Professor Calmette, Lille.
All the large towns.	—	Professor Calmette, Lille.
9, Rue de Rougemont,	Tuberculose Humaine.	9, Rue de Rougemont,
Paris.		Paris,
Provincial large towns.	Tuberculose Humaine.	CŒuvre de la Tuberculose Humaine.

RECENT FRENCH WORKS ON TUBERCULOSIS.

Author.	Title of Work.	Publishers.
Professor Pencet, Lyon.	"Rhumatisme Tuberculeux."	Masson, Boulevard St. Germain, Paris.
Dr. Menzer, Paris.	"Infections associées dans la Tuberculose."	Maloine, Place École de Médecine, Paris.
Dr. Sergent, Paris.	"Syphilis et Tuberculose."	Masson, Boulevard St. Germain, Paris.
Professor Calmette, Lille.	"Le Preventorium."	Of the Author, at Lille.
Dr. Barbary, Nice.	"La Grande Fauchense."	Rudeval, 4, Rue Antoine Dubois, Paris.
Dr. Mendel, Paris.	"Injections Intratrachéales dans la Tuberculose."	Maloine, Place École de Médecine, Paris.
Dr. Rigot, Lyon.	"Persulfates alcalins dans la Tuberculose."	—
Dr. Claude.	"Cancer et Tuberculose."	Masson, Boulevard St. Germain, Paris.
Dr. Daremberg, Cannes.	"Tuberculose pulmonaire."	Masson, Boulevard St. Germain, Paris.
Dr. Charazin Wetzel, Paris.	"Bactériologie de la Tuberculose."	Maloine, Place École de Médecine, Paris.
Drs. Lerredde et Pautrier, Paris.	"Photothérapie (Lupus)."	Masson, Boulevard St. Germain, Paris.
Dr. Bécclère, Paris.	"Rayons X et Tuberculose."	Masson, Boulevard St. Germain, Paris.
Dr. Barbary, Nice.	"Interprétation nouvelle du Mécanisme de l'Hémoptysie."	Rudeval, 4, Rue Antoine Dubois, Paris.
Dr. Renon, Paris.	"Diagnostic de la Tuberculose."	Maloine, Place École de Médecine, Paris.

PERIODICAL LITERATURE.

Name.	Editors.	Publishers.
<i>Revue de la Tuberculose.</i>	Drs. Bouchard and Claude.	Masson, Boulevard St. Germain, Paris.
<i>Revue Internationale de la Tuberculose.</i>	Dr. S. Bernheim.	9, Rue de Rougemont, Paris.
<i>Tuberculose Infantile.</i>	Dr. Leon Derecq.	29, Avenue Friedland, Paris.
<i>Bulletin de la Société de Préservation par l'Éducation Populaire.</i>	Dr. Weill, of Mentone.	33, Rue Lafayette, Paris.

THE CONTROL OF TUBERCULOSIS IN FINLAND.

BY PROFESSOR ALBERT PALMBERG,

M.A., M.D.,

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TUBERCULOSIS in Finland is not so common as in many other countries. Only in England is the mortality from tuberculosis lower than that in Finland. The tuberculosis death-rate per 1,000, at the ages fifteen to sixty years, is for Finland 2·9, while for Saxony it is 3·0, for Prussia 3·1, for Bavaria 3·9, for France (ages twenty to sixty) 4·6, and for England (ages fifteen to sixty-five) 2·6.

Statistics.

The mortality from pulmonary tuberculosis per 1,000 inhabitants at the ages of fifteen to sixty years, as compared with the general mortality in the eight provinces of Finland, is indicated in the following table:

Province.	Mortality from Tuberculosis. Ages 15 to 60 Years.	General Mortality. Ages 15 to 60 Years.	General Mortality. All Ages.
St. Michel	2·1	9·1	20·8
Nyland	2·5	7·0	18·5
Tavastehus	2·6	7·1	17·4
Wiborg	2·6	9·0	21·4
Åbo	2·8	7·7	17·3
Uleåborg	3·0	8·3	19·0
Wasa	3·2	8·4	18·8
Kuopio	3·8	9·5	20·1
Average	2·8	8·3	19·2

It is a remarkable fact that in the province of St. Michel, where the mortality from tuberculosis is lowest, the general mortality is, with one exception, higher than in other provinces.

Every province in Finland is divided into districts, each under the supervision of a medical officer of health. Each district contains about 60,000 inhabitants. The mortality from tuberculosis varies in these districts between 1·6 and 2·8, and in the different parishes between 0·9 and 6·0. In some districts of Finland there are parishes far

removed from the chief lines of communications. Some of these have as low a mortality from tuberculosis as 0·1 to 0·9.

In the towns the mortality from tuberculosis is higher than in the rural districts, being 3·4 in the former and 2·8 in the latter. But the general mortality in the former is smaller than in the latter. The averages for the towns in every province of Finland are as follows :

Province.	Mortality from Tuberculosis. Ages 15 to 60 Years.	General Mortality. Ages 15 to 60 Years.	General Mortality. All Ages.
St. Michel ...	2·6	10·9	19·0
Uleåborg ...	2·7	8·1	16·5
Wiborg ...	3·0	8·7	18·0
Kuopio ...	3·2	9·3	17·7
Nyland ...	3·5	9·1	18·8
Åbo... ..	3·8	10·0	20·1
Wasa ...	3·9	9·9	19·5
Tavastehus ...	4·5	10·1	19·1
Average ...	3·4	9·5	18·6

All figures given above are averages for ten years.

In the towns the tuberculosis death-rate is higher than in the country.

In comparing the two last quinquennial periods, it is seen that the mortality from tuberculosis as well as the general mortality has decreased in the towns: tuberculosis from 3·5 to 3·3; the general mortality between fifteen and sixty years from 10·0 to 9·1; and at all ages from 19·8 to 17·5. But in the rural districts the mortality from tuberculosis has been constant—2·8; while the general mortality has decreased from 8·5 to 8·2, and from 20·0 to 18·3.

Demographic statistics have been made in every town and parish in Finland since the year 1749. In 1865 a Central Statistical Bureau was organized in Helsingfors, the capital of Finland, and here are worked out the statistics from all branches of our administration.

Geographical and Climatological Considerations.

Finland is situated between 59° and 70° N., and between 21° and 32° E. of Greenwich. The two great gulfs of the Baltic surround it—the Gulf of Bothnia to the west, and the Gulf of Finland to the south. In the north-west Finland borders on Sweden and Norway, and in the east on Russia.

Finland has an area of 349,495 square kilometres; the coast has a length of 1,400 kilometres. The mainland is dotted over with a great

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number of lakes; in fact, these comprise 12 per cent. of the whole area.

The country is very undulating, but the hills, which consist principally of granite rocks, and bear evidences of having been polished during the glacial period, do not reach to any great height. The altitude varies from 200 to 1,200 metres. In consequence of its formation the country has a number of cascades, among which Imatra, one of the greatest in the world, is 19 metres high and 875 metres long.

The climate is rather mild considering the very northern situation of the country. Of all lands having the same latitude, only the Scandinavian Peninsula has a milder climate; but on account of Finland's great extension to the north and south the climate varies much in different parts.

The population of Finland is at present 3,000,000; of these 2,600,000 are Finns and 400,000 Swedes.

The Grand Duchy of Finland was until 1809 associated with Sweden; since that time the country has been united with Russia. By a solemn declaration to the Diet in Borgå in March, 1809, the Emperor of Russia confirmed the constitution and fundamental laws of Finland, as well as the privileges and liberties of the people, to be inviolate for ever. Finland has its own Government and its own Diet, sitting since 1906 as one Chamber. Every man and woman above twenty-four years of age is entitled to one vote, and is eligible for election as a member of the Diet.

The Anti-Tuberculosis Movement in Finland.

The question of providing practical measures against tuberculosis was first raised by the Finnish Medical Society (*Finska Lakaresällskapet*) in 1889. This society passed ten resolutions suggesting measures for the prevention of tuberculous infection in families, workshops, factories, and labourers' dwellings, and by the contamination of foods; also concerning the construction of workshops, factories, and other buildings, and the establishment of nursing homes and sanatoria for tuberculous patients. Some of the resolutions were put in practice through the Public Health Society, which printed 25,000 placards stating in a few paragraphs the principal ways in which tuberculosis may be spread. These placards were put up in schools, factories, workshops, and in railway and highway stations, etc. Other resolutions were sent to a Commission for the revision of the Public Health Act of 1879.

At their general meeting of the same year (1889) the Finnish Medical Society discussed the question of the provision of public sanatoria. At the Diet held in 1891 this matter was brought forward, and public funds asked for the construction of sanatoria. The same question was again raised by the Parliament of 1897, and the following

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resolution passed: "Sanatoria should be constructed with public funds for poorer patients; the Government should support the construction of public sanatoria; the Government should promote knowledge concerning means for the prevention of tuberculosis."

The Finnish Medical Society at its general meeting in 1905 determined to organize a National Association for Combating Tuberculosis. This association has already obtained a large number of adherents among all classes of the population. Its programme is to spread sound knowledge regarding this evil, to organize nursing homes for consumptives, to secure the protection of children from tuberculosis by the establishment of forest schools, holiday camps, and the like. March 1 is the Tuberculosis Day of the association, when popular lectures are delivered in every town and other populated places throughout the country. The association has obtained permission to sell special stamps which may be placed on letters, thereby providing funds for the carrying on of its work.

Action of the State and the Communities.

In 1898 the Government appointed a Commission, the chairman of which was the writer of this article, to suggest measures for the prevention and arrest of tuberculosis. The Commission compiled very complete statistics regarding the mortality from tuberculous disease in the different communities of Finland, and they proposed the carrying out of the following measures:

1. Provision of means for the protection of children from tuberculous infection.
2. The protection of school-children from mental over-exertion, and the encouragement of physical training.
3. Provision for suitable treatment of all infected children.
4. The prevention of overcrowding in dwellings and the establishment of hygienic houses.
5. The regulation of workshops and factories.
6. The promotion of instruction concerning anti-tuberculosis measures.
7. The preparation of special legislative enactments concerning tuberculosis.
8. The establishment of sanatoria for scrofulous children and for tuberculous patients.
9. The construction of separate wards for tuberculous patients in all public hospitals.
10. The founding of nursing homes for tuberculous patients in the various parishes.
11. The establishment of holiday camps.

A special Commission had previously dealt with bovine tuberculosis and measures against infection by milk and food. Regulations con-

cerning these matters are also contained in the Public Health Act, and in orders given by the Public Health Commissions of the towns.

Some of the projects named above have been put in practice, but in the Russian interregnum, 1899 to 1906, most of the efforts for social improvement have been more or less arrested. Recently much activity has been manifest. The Government has allotted prizes for the best popular pamphlet on tuberculosis, and measures to be taken against it. This pamphlet has been printed and gratuitously distributed. Copies have been given by doctors to tuberculous patients, and many have



NUMMELA SANATORIUM FOR CONSUMPTIVES, FINLAND.

also been distributed through the Public Health Society, etc. Official Commissions are working to improve hygienic conditions and to afford adequate medical assistance all over the country.

The Establishment of Sanatoria.

The Finnish Medical Society and the Medical Society Duodecim have, in 1899, started the two first sanatoria for tuberculous patients in Finland. As proposed by the Tuberculosis Commission, the Government has contributed to the construction of these establishments, and allotted ground—about 60 hectares (140 acres)—to each. In return for this contribution the companies of the sanatoria have provided wards, with provision for poorer patients, at a very moderate fee—2 Finnish marks (1s. 7d.) a day.

The sanatorium Nummela, started by the Finnish Medical Society,

contains seventy beds. It is situated in the south-west of the country, on a hill of gravel near the lake Saaksjarvi, in the parish of Nurmijarvi, 3 kilometres (two English miles) from the railway to Hango. The other sanatorium, Takaharju, was started by the Society Duodecim, and has 100 beds. It is situated in the north of the country, also on gravel, near the great lake Saima, in the parish of Kerimaki, two miles from the railway to Nyslott.

There is also a sanatorium for scrofulous children at Hogsand, established by medical men, and erected with Government support. This sanatorium is situated on the sea-coast, some miles from the harbour of Hango, in the south-west of the country. Here only poor children are treated, and free of cost.

The Government is constructing a large sanatorium for poorer patients in the north-west of the country, and it is proposed to build a sanatorium for scrofulous children in the north of the country.

The capital of Finland, Helsingfors, with a population of 120,000 inhabitants, has a hospital and a nursing home for tuberculous patients. It has also a dispensary, which is conducted somewhat on the lines of the French establishments. In the Public Health Laboratory the examination of the sputum of suspected consumptives is made by specially appointed bacteriologists.

ORIGINAL PAPERS.

THE DIETARY OF THE CONSUMPTIVE.

By J. J. GALBRAITH,

M.D.,

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ONE of the problems which the sanatorium physician finds most difficult is that of diet. Given an early case of tuberculosis with no marked gastric derangement, the patient usually reacts quickly to the treatment, appetite and digestion improve, and the problem is merely to supply the various nutrient constituents in the proportion best calculated to sustain nutrition and give a sufficiently high caloric value to ensure his having a margin on which to gain weight.

Unfortunately, many tuberculous cases admitted to a sanatorium for treatment do not thus early react. Roughly speaking, the cases which do not react fail to do so for one of two reasons: Either the toxic poisoning caused by the disease is so acute that it prevents improvement taking place in the appetite and digestion; or the patient has been long ill and suffers from a dyspepsia, associated with actual pathological changes in the gastro-intestinal mucosa.

Cases with an acute toxæmia and consequent gastro-intestinal derangement usually, if not invariably, have a swinging or elevated temperature. In dieting a febrile case of tuberculosis, it must be borne in mind that the febrile tuberculous patient must not be dieted on the same lines as a patient suffering from an acute febrile disease with a corresponding degree of pyrexia. With the poor control characteristic of the condition, the temperature disturbance is out of proportion to the severity of the symptoms. Thus, a case of tuberculosis with an elevated temperature of 102° to 103° F. may be able to take a full diet and gain weight, with no gastro-intestinal difficulty. In such cases the temperature usually declines and the patient improves. On the other hand, there are cases in which the toxic poisoning seems particularly to affect the appetite and digestion, and these are the cases in which the dieting presents difficulties.

In the group of cases with a chronic dyspepsia, the disease itself is usually subacute or chronic, and the patient gives a history of old-standing dyspeptic troubles long before the onset of lung symptoms.

Cases vary considerably as to the seat of the dyspepsia. Certain cases, especially of the toxic variety, suffer chiefly from gastric symptoms: want of appetite, sickness, and vomiting; others, again, show symptoms pointing to intestinal dyspepsia: relatively high morning temperature, excess of indican in the urine and intestinal flatulence, often with a sense of depression and headache.

In order to successfully diet cases of tuberculosis, it is necessary to know what is the condition of the various digestive secretions. I have found in a considerable number of cases, many of them not showing any special symptoms of dyspepsia, that the characteristic gastric secretion in tuberculous patients is one deficient in hydrochloric acid.¹ In many cases there is little combined acid after a test meal, and only very rarely any free acid—hyperchlorhydria I have never seen, though there is generally a considerable quantity of organic acidity. Hydrochloric acid is the specific stimulant of pancreatic activity, so that probably the pancreatic secretion is also diminished. The scarcity of acid allows gastric fermentation to take place, and consequent flatulence. The aim of dieting should be to counteract the pathological condition of the secretions.

Pawlow² has shown that gastric secretion is stimulated by appetizing food, so that the dietary should be varied to stimulate the appetite, and good cooking is of the utmost importance. He has also demonstrated that dieting tends to alter the secretions, so that, for a given food, the glands gradually come to secrete the juices which are best adapted for its digestion.

As we know that the gastric secretion in consumption is usually deficient in mineral acid and digestive power, the diet selected for these cases should be such that the proteid constituents are in a form specially adapted to stimulate secretion, and at the same time easily digestible. Pawlow's experiments³ on the dog show that raw meat causes the secretion of a juice strong in mineral acid, the summit of the secretory curve being quickly attained. I have found that after a raw-meat test meal the stomach quickly empties itself, so that by the end of an hour it may be impossible to recover anything from the patient's stomach by the aid of the tube. Raw meat furnishes a means of artificially stimulating the secretion of a highly acid, and therefore antiseptic, juice, which further stimulates pancreatic digestion on passing into the duodenum.

In certain cases in which the gastric symptoms are such as to prevent the patient retaining the requisite quantity of food, it is important to keep up the nitrogen intake, and at the same time to throw as little

¹ This was the case in many of the patients of Dr. R. W. Philip examined by me in the Royal Victoria Hospital, Edinburgh.

² Pawlow, J. P.: "The Work of the Digestive Glands." English Edition, London: Charles Griffin and Co. 1902. P. 69 *et seq.*

³ *Ibid.*, p. 36 *et seq.*

strain on digestion as possible, apart altogether from specific dieting to vary secretion activity. This may be attained by giving raw eggs. Raw eggs do not stimulate gastric secretion, and if given on an empty stomach they pass through rapidly with no digestion. If given with milk or other food, they remain in the stomach till the milk is thoroughly digested and ready to pass into the duodenum. The eggs, to secure the best results, must be new laid, given plain, and a reasonable time allowed to elapse before the next meal.

In the group of cases which shows evidence of intestinal decomposition the conditions are more difficult of investigation. Probably the pancreatic secretion is defective secondarily to the deficiency of stimulating acid, resulting in the slow digestion and consequent decomposition of the proteid. Diminishing the proteid lessens the chance of fermentation, but does nothing to correct the primary secretory error, and interferes with the proper dieting of the patient, from the wider point of view. This type of case usually shows a supranormal temperature often inverted, headaches, and other symptoms of toxic poisoning, with an excess of indican in the urine. In such cases I find that Metchnikoff's milk is useful in preventing fermentation. I am indebted to Dr. Isabella Mears, of Woodburn Sanatorium, Edinburgh, for the following method of using the milk. In such cases, especially when there is an exacerbation of the symptoms with pyrexia, the milk is inoculated as directed by the makers, incubated for two hours before administration, and neutralized with a pinch of chalk. It is given two-hourly, with no other food for two days, so as thoroughly to flood the intestines with the *Bacillus lactis*. The ordinary diet may then be reverted to, with prepared milk instead of fresh milk. The result is a surprisingly rapid fall in the temperature and disappearance of the toxic symptoms. The effect is more complete than can, in my experience, be got with any intestinal antiseptic, and the permanent dietetic treatment of the patient is not interfered with.

Given a case of tuberculosis with no gastro-intestinal disorder, the aim in dieting is to induce the patient to put on flesh rather than fat. Fat may be converted into muscle by exercise, but the patient may not be able to take the necessary amount. The diet must be of sufficient caloric value for the needs of the patient, and must contain sufficient proteid to make nitrogen fixation possible. The ideal is to secure an increase of the protoplasm or vitalized proteid, rather than of the paraplasm or circulating proteid, which is merely a stored nitrogenous fuel and of relatively low caloric value. Here, again, we are helped by raw meat, which is a direct stimulant to nitrogen fixation. The same end cannot be gained by stuffing with cooked proteid, or decreasing nitrogen decomposition by raising the caloric value of the diet with fats and carbohydrates.

Except in the special gastric conditions which are indicated below, I believe in giving three meals a day with no food between, thus ensuring that the glands shall have a reasonable time to rest and secrete, and that a fresh meal is not put into a stomach containing the fermenting remains of the last meal. The dietary which I find gives the most physiological results is one of 2,600 to 2,800 calories. I find that it is impossible to ascertain the heat value of a mixed diet in which the patient is allowed a choice, because of the varying composition of cooked foods, the composition of no two milk or steamed puddings being alike, and their concentration continually varying. Raw meat I use in the great majority of cases, and as a rule find no difficulty in its administration.

The diet given below is the prescribed minimum, but I find that patients usually take more :

Breakfast, 8.30.—Two courses: fish, bacon and eggs, eggs or cold meat, 1 pint milk, bread and butter (porridge, tea and coffee optional).

Dinner, 1.—Soup (optional); two courses: raw meat and choice of roast joint or other cooked meat dish; vegetables; puddings, steamed or milk; bread, butter, 1 pint milk; cheese (optional).

Supper, 7.—Fish; two courses: raw meat, joint, etc.; puddings, steamed or milk; cheese and coffee (optional).

The approximate total diet may be stated thus :

Flesh Food: Meat, chicken, eggs, fish, etc., 360 grammes.

Milk: 1,500 c.c.

Carbohydrates: Porridge, puddings, bread, 360 grammes.

Fat: Butter, exclusive of that used in cooking, 50 grammes.

Raw meat may be given in various ways. It is freed from fat, very finely minced, and seasoned with pepper and salt. It may be made into soup by making a fine paste with stock and diluting with warm stock under 100° F. to the consistency of gruel, and flavouring with tomato-sauce or otherwise.

Raw meat may also be made into a cream with malted milk.

Beef-juice has been shown by Richet to contain all the curative principles, and is prepared by dissolving out the soluble meat albumins with saline solution (1 pint to the pound) and straining in a press.

Juice can be made into a very palatable jelly by adding to a very stiff gelatine solution cold, just as the latter is about to set, so as to bring the whole to the proper consistency for setting. It may be flavoured with sherry or any suitable essence.¹

In cases with flatulence and sickness I am in the habit of sterilizing the stomach by giving hot water to sip before meals to wash out the infected mucous. An hour after I give a small meal of raw meat and

¹ For several of the above recipes I am indebted to Dr. Mears, of Woodburn Sanatorium, Edinburgh.

hot water with dry toast, which is practically unfermentable, and at the same time stimulates the secretion of the natural antiseptics. As the condition improves, after a day or two, milk may be given shortly after the meal. Milk has been shown to inhibit gastric secretion, and so in difficult cases may be given between meals—that is, long enough after the meal to allow the summit of the secretory curve to pass, so that the inhibition of secretion and the dilution do not have much effect, as the acid has already combined with the food proteid. As the sickness and flatulence diminish, the ordinary dietary can be resumed cautiously, and I have found that an occasional meal of raw meat alone greatly helps to keep the stomach sterile, once a certain amount of secretory activity has been established. Any article of diet which the patient cannot take can be gradually introduced into the dietary, the secreting mechanism being educated to deal with it.

In tuberculous children beef-juice, plain or mixed with milk, is well borne, also small quantities of raw meat. The diet should be of a caloric value proportional to the body-weight, with rather less proteid than ordinary.

I have never seen a case in which albuminuria has started after raw meat, though when albumin is already present it increases the amount, but, so far as I have seen, has no special influence on the case otherwise.

Tapeworm, if the meat is carefully selected, is rare. I have only seen one case in the past two years, in a patient who had had one before he ever had raw meat.

The results in difficult cases differ from those got with ordinary cooked diet. Patients are firmer, not so fat and breathless, and the proportion of cases who improve constitutionally, but whose physical signs do not improve, is less than on ordinary diet.

NOTE.—For further particulars regarding the clinical use and metabolism of raw meat see the following :

Hericourt and Richet : *Compt. Rend. de l'Acad. des Sciences*, 1900, p. 605.

Richet : *Revue de Médecine*, Février and Août, 1905.

Philip, R. W. : *Practitioner*, January, 1905 ; Transactions of Tuberculosis Congress, Paris, 1905, vol. i., p. 669.

Galbraith, J. J. : *Practitioner*, February, 1905 ; Transactions of Tuberculosis Congress, Paris, 1905, vol. i., p. 664.

Mears, I. : *Practitioner*, July, 1905.

THE TREATMENT OF TUBERCULOUS GLANDS BY X RAYS.

By A. HOWARD PIRIE,

M.D., B.SC.,

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It has been observed that great differences exist among different tissues in their susceptibility to X rays. X rays seem to exert a selective action on different cells. The cell most affected by X rays is the one which is actively growing. Cells may be classified in order of their susceptibility to X rays as follows: (1) Lymphocytes; (2) the mother cells of the spermatozoa; (3) the cells at the roots of the hairs of the scalp and beard; (4) cells forming the sweat-glands; (5) cells around the roots of the nails; (6) giant cells; (7) the actively growing cells of carcinomatous growths; (8) the endothelial lining of bloodvessels; and (9) gland-cells near the surface, as the thyroid and lymphatic glands. Other more slowly growing cells are less affected, such as the upper layers of the epidermis, and those entering into the composition of cartilage and bone. The depth from the surface is also of great importance. For this reason, the actively growing cells of the human ovary are little affected by X rays, whereas those of the testes are very readily influenced. The active rays are absorbed by the tissues to such an extent that those at a depth of about 3 centimetres only receive about a quarter of the original rays.

Physico-Physiological Considerations.

As lymphatic glands lie near the surface, they are in a position to receive a therapeutic dose of X rays. The success with which tuberculous glands may be treated by X rays is now well established. The *rationale* of this treatment is based on the foregoing considerations, and may be briefly summarized. The formation of the giant cell has lately been studied by Podwyssotzki and Pirone¹ by experiments on rabbits. By a method of irritation applied by means of cold, they observed that the nuclei of certain cells underwent direct division, which went on with remarkable rapidity, and in twelve to twenty-four hours many cells were filled with a mass of nuclei set close together. Thus protoplasmic areas were formed containing several dozen nuclei. Thus giant cells were artificially produced. The formation of a giant cell

¹ Podwyssotzki and Pirone: *Archives des Sciences Biologique*, vol. xii., p. 214. St. Petersburg, 1906.

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means, therefore, the rapid growth of a cell. Such a cell is very susceptible to the action of X rays, and is easily killed by X rays. Now, the giant cell seems to be generally associated with or contains tubercle bacilli. It often becomes a lodging-place for these bacilli, just as a gall-nut becomes a lodging for the larva inside. In both cases the host provides a protection to an unwelcome guest. If, then, the giant cell is killed by the action of X rays, the bacilli are naked, and the leucocytes attack and destroy them. Thus the X rays cause the removal of tubercle bacilli from the lymphatic gland, not by killing the tubercle bacilli, but by destroying their protective ramparts, and thus allowing their enemy—the leucocyte—to attack and prevail.

In a small dose the X rays are a stimulant, in a large dose an irritant, and if still increased they cause complete destruction of living cells. It is thus very important to administer the proper dose of X rays to effect a cure of tuberculous glands. Too small a dose will stimulate the giant cells to multiply. A larger dose will kill them, and at the same time stimulate the leucocytes to greater activity. A still greater dose will kill the leucocytes. Fortunately, there is a simple indication of the dose required. It is the fine lanugo hair on the side of the face and neck. I have noticed, especially in the treatment of tuberculous glands in the neck by means of X rays, that the downy hair over the side of the face becomes much longer on the side which receives the rays. This is due to the fact that the dose of X rays is stimulating and not detrimental to the cells at the roots of the hairs, and in the same way the leucocytes are stimulated and not killed. The same dose stimulates the leucocytes and kills the still more active cells which are forming the giant cells. It is a good guide to give a dose of X rays for tuberculous glands so that the downy hairs do not fall out, but grow longer. Cures, however, occur also when the downy hairs fall out. We know the dose of X rays which makes hair on the scalp fall out. The same dose on the lanugo hairs will not make them fall out, because the cells at the roots of those lanugo hairs are not so actively growing as those at the roots of the hairs of the scalp. In fact, one might say that the cells at the roots of lanugo hairs are growing only as fast as those of the deep Malpighian layer. Therefore, to destroy the cells at the roots of lanugo hairs, one would also destroy those of the Malpighian layer. For this reason it is difficult to epilate the hairs from a lady's upper lip.

Method of Application.

The technique for treatment of tuberculous glands in the neck which I have found most useful is the following: Use a medium tube. Give each week a third of the dose of X rays which will produce epilation on the scalp. Thus in three weeks a dose of X rays will be given which, if it had been applied to the scalp in one sitting, would have produced

epilation. This dose I have measured by means of my water electrometer. Use no filter for the skin over the glands, and the skin gradually grows red. This continuous hyperæmia probably does good, and is really a local Bier's treatment. The redness later on gives place to a dirty brown appearance, and when this stage is reached (in about six weeks) the glands will be seen to have grown smaller. The first sign of improvement is the differentiation of individual glands. Treatment must be continued from three to six months, until the glands no longer project on the surface. They remain for several months longer as hard small nodules, which may persist for a year, but give no further trouble, and gradually disappear altogether. The following clinical records of cases which I have recently treated by the application of X rays illustrate the advantages of this method.

CASE I.—Miss T., twenty-five, came to me for X-ray treatment on September 15, 1906, with a mass of tuberculous glands on the right side of the neck, which had been growing for about nine months. Two of the glands seemed about the size of pigeon's eggs. Treatment was continued about once a week till January 28, 1907, and she was then considered cured. The glands no longer showed on the surface, but remained beneath the skin as hard small nodules. Seen in July, 1907, the result remained perfect, as also it was in December, 1907, when no enlarged gland nor hard nodule could be felt.

CASE II.—A. N., aged twelve, tuberculous glands for nine months; began X-ray treatment on February 6, 1907.

His photograph is reproduced as he appeared on February 28. There was a large mass of tuberculous glands on the right side of the neck. Mr. Carson sent the case for X-ray treatment; Treatment was continued once a week till the mass completely disappeared, as shown by the photograph taken on September 1. A slight dermatitis, produced by a large dose of X rays, can be noticed in the illustrations. I consider a slight dermatitis does no harm during the treatment, and certainly has hastened the cure in three cases. I do not now, however, aim at producing a dermatitis.

CASE III.—H. E., aged ten. One tuberculous gland, size of a pigeon's egg, on left side of neck, of one year's duration. His condition on December 2, 1906, is shown in photograph. X-ray treatment was begun on December 2, 1906, and continued once weekly until March 21, 1907, when the condition was cured. The gland no longer showed on the surface, but could still be felt as a hard small nodule under the skin. The photograph brings out another point. The boy had decided adenoids before the treatment, and after treatment the adenoids disappeared. The photographs are characteristic.

CASE IV.—W. R., aged four, had a large mass of tuberculous glands of six months' duration, as shown by the photograph taken May 23,

1907. Mr. Carson sent me this case for X-ray treatment. Treatment was continued once a week. The neck became a dirty brown colour,

CASE II.



February 28, 1907.



June 1, 1907.



September 1, 1907.

TUBERCULOUS DISEASE OF THE CERVICAL GLANDS IN A BOY OF TWELVE YEARS TREATED BY X RAYS.

and has been thus maintained during the treatment. Downy hairs did not fall out, except over the apex or the swelling. The condi-



CASE V.—September 19, 1907.
 " III.—December 2, 1906.
 " IV.—May 23, 1907.

CASE V.—December 9, 1907.
 " III.—March 21, 1907.
 " IV.—November 4, 1907.

TUBERCULOUS DISEASE OF THE CERVICAL GLANDS IN CHILDREN OF AGES
 FROM FOUR TO TEN YEARS AND TREATED WITH X RAYS.

tion on November 4 is shown in the second photograph. The glands are going down, but still are visible on the surface. The patient has had about five months' treatment to produce this result. She had no treatment during August. Another three months should complete the cure in this case.

On two occasions during the last year I have noticed a gland come to the surface and point during the first month of treatment, and after continuing on the point of breaking for six weeks, gradually go away without opening. In no case have I seen a solid gland break down and suppurate during X-ray treatment.

CASE V.—H. P. presented himself on September 19, 1907, with a suppurating gland pointing as shown in the illustration. X-ray treatment was carried on from September 19, 1907, till November 1, and then the abscess began to grow smaller, less tense, and showed every sign that it was going away without opening. It kept on shrinking till November 11, when it burst while the patient was at school. A dressing had to be kept on for a week, but after that time was discontinued, as there was no discharge. The second illustration shows the condition on December 9, 1907.

Conclusions.

Tuberculous glands in the neck can certainly, in my opinion, be cured by X rays. The best time for beginning the treatment is when the glands are growing larger. A broken-down gland can be made to disappear without incision, provided treatment is begun before it has begun to point. No bad effects are produced. Hitherto I have met with no failures, but treatment must be continued for at least three to six months.

INSTITUTIONS FOR THE TUBERCULOUS.

MESNALIEN SANATORIUM, NORWAY.

AMONG Norwegian sanatoria for tuberculous patients Mesnalien occupies the foremost place. It was established in 1900, with the approval and support of the leaders of the medical profession, and is conducted under the direction of a representative board of physicians and influential laymen.

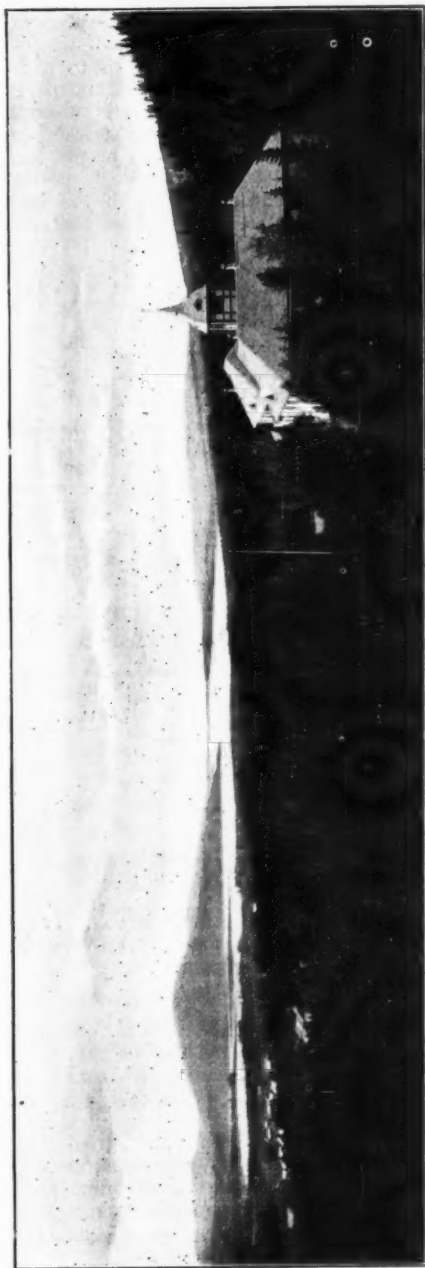
It is situated on a site specially selected as affording almost ideal climatic conditions for an all-the-year-round health station, about eight miles east of Lillehammer, on the southern slope of the mountains between Gudbrandsdal and Østerdal, and at an elevation of 1,800 feet above sea-level. It is particularly well protected from winds—on the north and east by mountains and well-wooded hills, and on the west by forests of pine and birch. Extensive forests surround the sanatorium. The front lies open to the south, with extensive views over lakes and forest-clad hills, as is to some extent shown in the accompanying illustration.

The climatic conditions, both in summer and winter, are admirably suited to the special requirements of tuberculous patients. Winter residence is particularly well suited for English patients. For about six months (middle of November to the end of April) the advantages of an Alpine resort may be enjoyed. Snow lies on the ground the whole time, thus ensuring a perfectly dustless atmosphere, and allowing limitless opportunities for outdoor exercise and recreations. Although keen frost prevails, the stillness and dryness of the air, the absence of wind, and the prevalence of much sunlight, prevents cold being felt, and patients may lie in the open shelters all day without discomfort. Fogs are rare, and never irritating.

The sanatorium consists of two stories. It is built of wood, and is thus dry and very warm. The walls and floor are of non-absorbent material. The rooms are spacious, with large windows, which in many instances open on to balconies. The main structural features of the sanatorium are shown in the accompanying plan.

The dining, drawing, and billiard rooms are suitably placed at the east end of the building, while at the west end are two capacious open verandas, from which there is an extensive and charming outlook. There is also a large, roomy shelter, with both north and south aspects, the former intended for use in summer. There is accommodation for forty patients.

Most of the patients' rooms face south, and are unusually large and comfortable, and as each differs in its furnishing and decoration, which are in attractive Norwegian style and colour, an air of homeliness is afforded and the impression of an institution as far as possible avoided. In the walls between most of the rooms there is a layer of asbestos

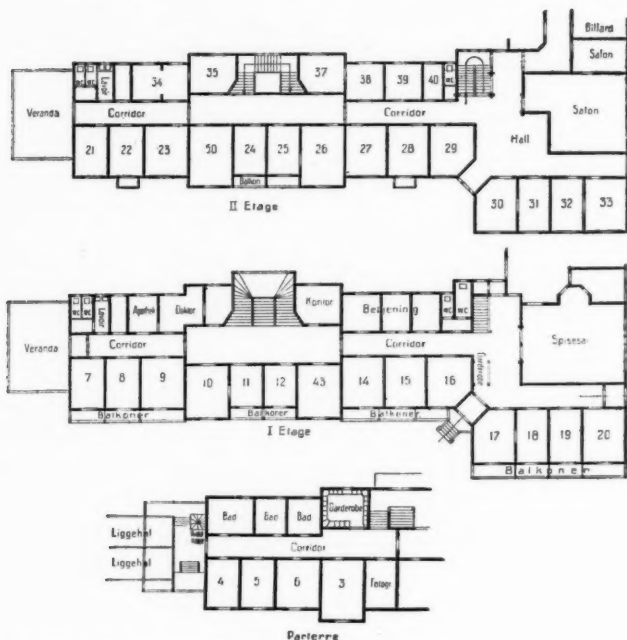


MESNALIEN SANATORIUM, NEAR LILLEHAMMER, NORWAY.

The Sanatorium is shown to the right, with the little cluster of peasants' homes forming the hamlet of Mesnali to the left. The panorama shows the view to the south and west over the neighbouring lakes, and away to the distant hills. The extensive forests of pine and birch are also to some extent indicated.

felt, which effectively deadens sound, and goes far to maintain that peace and quiet which is so essential for comfort and progress. All the floors are covered with linoleum. There is electric lighting throughout, and all parts of the sanatorium are heated by radiators. There is an excellent supply of spring water, and the sanitary conditions are good.

Treatment is maintained in accordance with the best modern principles. For those cases able to take exercise there are endless



MESNALIEN SANATORIUM, NEAR LILLEHAMMER, NORWAY. PLAN SHOWING THE GENERAL ARRANGEMENT OF PRIVATE AND PUBLIC ROOMS, BALCONIES, VERANDAS, AND SHELTER, ETC.

opportunities for an enjoyable outdoor life. Walks through the forests and across pasture-lands in great variety may be taken. Fishing in the neighbouring rivers and lakes is available. During winter days the lighter forms of winter sport, such as sleigh-driving and ski-ing, may be indulged in by patients whose condition will allow of it. In fact, the natural resources are so numerous and varied that a course of treatment can be robbed of much of its tediousness and monotony.

The resident physician and his wife usually dine and associate much with the patients, thus to a great extent ensuring many of the advantages of home life. An English-trained nurse is also in residence.

Physicians sending patients receive regular reports as to their progress. The sanatorium is intended primarily for incipient and curable cases and for those predisposed to tuberculous affections.

For practical service it may be well to add that the tariff varies from 7s. to 9s. a day, according to room. This includes medical attendance, full pension, with three chief meals and two smaller ones, and milk whenever desired, separate bedroom, heating, lighting, baths, attendance, and ordinary nursing. The only extras are for washing and alcoholic liquors, and when special nursing is required. An additional charge of 10 kroner (11s.) is made for the disinfection of a patient's room.

The sanatorium can be easily reached from Christiania by a comfortable and interesting railway journey of some five hours. Leaving the train at Lillehammer, a drive of two hours brings the patient to his destination.

The sanatorium is in telephonic and telegraphic communication with Christiania and other centres, and is thus in close touch with England and other countries. There is a postal delivery daily.

English patients will probably find the sea journey most convenient. The Great Northern and North-Eastern Railways provide comfortable and express trains to Hull, from whence Messrs. Thomas Wilson and Sons' well-equipped steamers sail for Christiania, a passage usually of some forty-eight hours. For those who so prefer, the overland routes are available.

J. SÖMME.

[We have recently visited and fully inspected Mesnæien Sanatorium, and can thoroughly recommend it to the consideration of English and American physicians. The resident physician and his wife and the nurse-in-charge all speak English. The climate and conditions of life and the routine, dietary, and general management of the sanatorium are such as we believe would be advantageous to many English patients.—EDITOR B. J. T.]

HEALTH STATIONS.

THE WINTER SANATORIA OF NORWAY.

ENGLISHMEN are fond of talking of Norway as "the Land of the Midnight Sun"; but few know of the exceptional advantages which this wonderland of the North can offer in the winter. Having recently had an opportunity of visiting the more important winter health resorts in Norway, I believe a few practical notes will be of service to physicians and others desirous of discovering new winter stations for consumptive and tuberculously predisposed cases, and centres where English visitors may obtain conditions suitable for mental rest, bodily recuperation, or sport.

Travel Notes.

Norway can be easily reached. Several routes are available. All things considered, the sea-passage from Hull to Christiania is probably the best both for invalid and sportsman. Messrs. Thomas Wilson, Sons and Co., run a well-equipped boat every Friday night throughout the winter.¹ The Great Northern and North-Eastern Railway Companies provide through carriages to Hull, and, leaving King's Cross by the evening dining-car train, the steamer can be reached in good time before departure.² This route I followed myself. The North Sea is at times troublesome, but in winter it is by no means always rough. For those who prefer so-called overland routes several alternatives are open.³

I should like to express my indebtedness to Dr. M. Holmboe, Director of the Norwegian State Medical Department; Dr. Andvord, of Christiania; Dr. Sømme, and many other medical confrères; also to Mr. John Sørensen, of Tofte, and to Mr. H. Mallng, of the excellent and most enterprising Norwegian Tourist Traffic Association, for much information and assistance during my visit. All prospective visitors to Norway would do well to consult the excellent publications issued by this admirable body.⁴

¹ Berths on the s.s. *Oslo* and *Montebello* should be booked some time in advance. Plans and full particulars can be furnished on application to Messrs. Thomas Wilson, Sons and Co., Ltd., Hull.

² Seats should always be booked beforehand, and a place reserved in the dining-car.

³ For full particulars consult Baedeker's "Norway, Sweden, and Denmark" (London: Dulau and Co., 37, Soho Square, W.), price 8s.; Cook's "Handbook to Norway and Denmark" (London: Thomas Cook and Son, Ludgate Circus), 1907, price 1s. 6d.; Bennett's "Handbook for Travellers in Norway," twenty-ninth edition, revised (Christiania: Thomas Bennett and Sons), price 3 kroner; and *The Winter Sports Annual*, 1907-1908, edited by E. Wroughton (London: Simpkin, Marshall and Co.), price 2s.

⁴ The Norwegian Tourist Traffic Association (Forening for Reiselivet i Norge), 2, Storthingsgaden, Christiania, issue a useful list of "Hotels, Sanatoria, and Skyds Stations," and an illustrated booklet, "Winter in Norway," which gives references to the chief sports stations, and provides particulars of all the more important sanatoria and health resorts. Such a central association as this is invaluable in the opening up of such a country as Norway. English visitors would do well to consult and support such a valuable institution.

There is a Norwegian Club in London (112, Strand, W.C.; Hon. Secretary, Rev. Thomas B. Willson, M.A.), and much helpful information will be found in its year-books.¹

Winter Climatic Conditions in Norway.

The climatic conditions which prevail throughout a great part of Norway during the winter are such as admirably meet the needs of the health-seeker and the requirements of the sportsman.²

A reference to a good map of the country and a consideration of

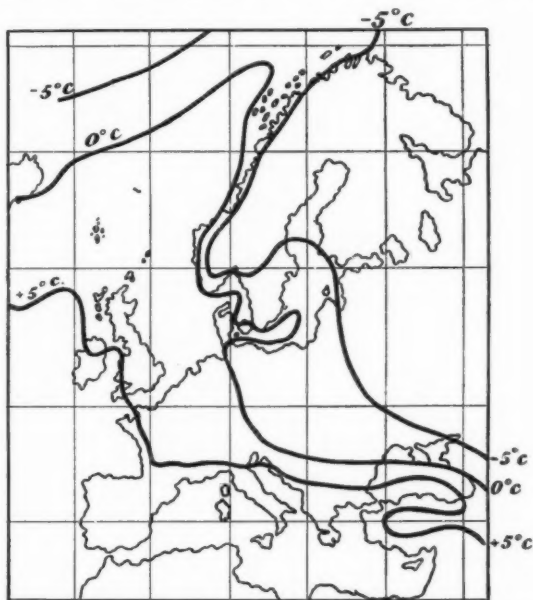


CHART INDICATING ATMOSPHERIC MEAN TEMPERATURE IN NORWAY AND THE GREATER PART OF EUROPE AND THE NORTH ATLANTIC IN JANUARY, WHEN THE LOWEST RATES ARE REACHED.

the accompanying charts will readily make clear the many advantages which the Norwegian Highlands are able to offer.³ Snow lies from about November to Easter. The air is dry, light, and invigorating.

¹ Visitors to Norway may consult with advantage the very useful collection of English works dealing with Norway in the office of Thomas Bennett and Sons, 35, Carl Johans Gade, Christiania.

² See "Norway as a Winter and Summer Health Resort." By Dr. A. Magelssen. Translated by Mr. John Sørensen, of Tofte Sanatorium, Hundtorp. Christiania: Nikolai Olsen.

³ I am indebted to the courtesy of Mr. John Sørensen and the publishers of Dr. Magelssen's informing "Norway as a Winter and Summer Health Station" for the opportunity of reproducing these charts.

Winds, at least in the eastern districts of Norway, are not persistent. Much sunlight is available. Rain is unknown, and snow generally falls only at long intervals. The atmosphere is dry and bracing, and in the absence of moisture, wind, and fogs, the cold is but little felt. The presence of extensive forest tracts and undulating mountain and table lands, with sparseness of population, tend to make many districts of this land veritable sanatoria. It should be remembered also that expenses are exceedingly reasonable.

Convenience of access is necessarily an important factor in the

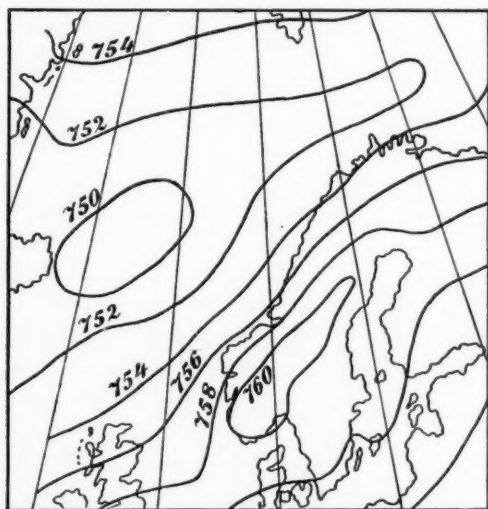


CHART INDICATING DISTRIBUTION OF ATMOSPHERIC PRESSURE IN THE NORTHERN ATLANTIC—THE NORWEGIAN SEA—AND SHOWING MARKED BAROMETRIC MINIMUM MIDWAY BETWEEN NORWAY, ICELAND, JAN MAYEN, AND SPITZBERGEN.

development of Norway's health centres. The railway system of Norway is at present limited, but with its extension many new districts, admirable for the health-seeker and sportsman, will be opened up.

The Sanatoria of Norway.

It must be explained at once that the term "sanatoria" is used throughout Scandinavia in a much wider sense than we are accustomed to use it in England. Many "sanatoria" are what we should term hydropathic establishments, or consider country hotels. A medical director is attached to some of these, but many have no resident physician.¹

¹ A very useful guide to the chief sanatoria and health stations of Norway, and containing a particularly helpful map, has been published by Dr. P. A. M. Mellbye ("Norges Kursteder og deres Kurmidler." Kristiania: Alb. Cammermeyers, Forlag, 1903), who, I trust, may be induced to prepare an English edition.

The anti-tuberculosis movement in Norway is being very effectively and judiciously conducted.¹ A description of the progress made has recently been published by Dr. M. Holmboe.²

A number of excellent sanatoria have come into existence during the last few years.

Private Sanatoria for Consumptives.

The foremost private sanatorium is undoubtedly that at Mesnali, a description of which is given in the present number of this journal. This, in situation, construction, and general management, may well compare with the best in this and other countries. It is well suited to the requirements of English patients, and I believe that many cases could not do better than spend a winter here.



MESNALIEN PRIVATE SANATORIUM FOR CONSUMPTIVES.

Another sanatorium much appreciated by both Norwegian and Swede is Gjøsegaarden, conducted by Dr. Fr. Jonassen, near Kongsvinger, not far from the Swedish boundary, and about three hours' journey from Christiania. It was established in 1894, and has been enlarged from time to time, and now has accommodation for thirty-two patients. When I visited it an additional new house was nearing completion. The sanatorium is situated 200 metres above sea-level, in a forest region, and snow lies from December to April. Dr. Jonassen and his wife both speak English, and, as far as possible, the spirit of

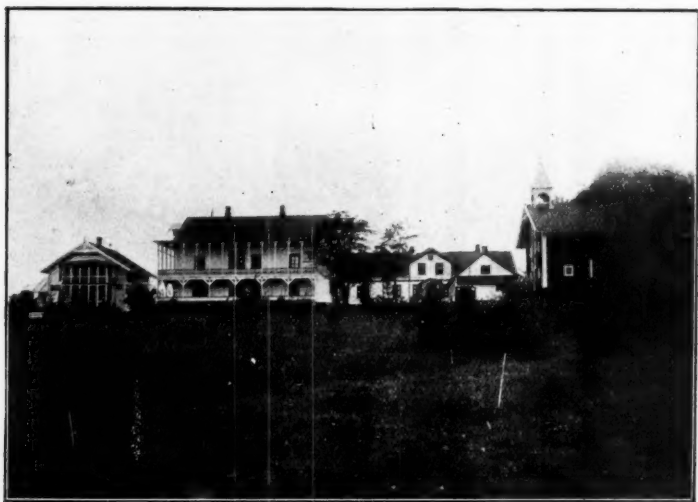
¹ See article in the *BRITISH JOURNAL OF TUBERCULOSIS*, vol. i., No. 4, p. 288, October, 1907.

² Holmboe, M.: "Lungetuberkulosens bevægelse i Norge, navnlig i de senere aar," *Tidsskrift for den Norske Lægeforening*, December 15, 1907. Kristiania.

a home life is maintained among the patients. The terms are very reasonable—150 to 180 kroner a month.

There are two private establishments for consumptives in Gausdal, and within easy driving distance of Lillehammer. Kornhaug Sanatorium, conducted by Dr. W. Holmboe, consists of a picturesque country house in the Norse style, accommodating eight or nine persons, and a recently constructed special building with shelter for an additional twenty-nine patients. The inclusive price per month is from 135 to 165 kroner.

Granheim Sanatorium is under the direction of Dr. L. Wiegaard, and, as will be seen from the accompanying illustration, has the advantage of a particularly fine outlook. It has been specially built,



GJØFSEGAARDEN PRIVATE SANATORIUM FOR CONSUMPTIVES, NEAR KONGSVINGER, NORWAY.

and is well designed for its purpose. Inclusive terms are from 130 to 135 kroner per month.

On the outskirts of Christiania there are two private sanatoria for consumptives. One belongs to Dr. Mjøen. The other—the Grefsen Sanatorium—was originally a hydropathic establishment, and is said to have accommodation for ninety cases.

All the private Norwegian sanatoria offer advantages as regards price which cannot well be obtained in this country. Even in the cheapest it is usual for the patient to have his own room, and to be supplied with all hygienic necessities, and, as far as I have been able to ascertain, the food is generally excellent, the nursing good, and the medical supervision thorough.

Public Sanatoria for Consumptives.

The number of what may be termed public or State sanatoria for Norwegian consumptives is at present very limited.

The chief is the Lyster Sanatorium, situated on the Sognefjord, 470 metres above sea-level. It has been built out of the funds provided by the St. George's Leprosy Hospital at Bergen. There is



KORNHAUG PRIVATE SANATORIUM FOR CONSUMPTIVES (WINTER SCENE).
Showing the original private house on the left and the new patients' quarters on the right, with surrounding snow-covered hills and country of Gausdal.

accommodation for 126 patients. The general equipment is thoroughly modern, and the grounds are extensive. It is estimated that the cost per bed amounted to 1,200 kroner. The institution owes its origin to Dr. Klaus Hansen, of Bergen. Dr. E. Grundt is the resident physician, and to him I am indebted for information and the loan of the block of the accompanying illustration.

The old leper hospital at Recknes, not far from Molde, has now been converted into a sanatorium for consumptives, and provides accommodation for sixty patients.



GRANHEIM PRIVATE SANATORIUM FOR CONSUMPTIVES, GAUSDAL.
The sanatorium is seen situated among pines in its own grounds, and surrounded by the hills forming the valley known as Gausdal.

Sanatoria for Tuberculous Children.

Norway also possesses two excellent institutions for the treatment of tuberculous children. The Seaside Hospital at Fredricksvørn,



LYSTER STATE SANATORIUM FOR NORWEGIAN CONSUMPTIVES.



VOXENKOLLEN SANATORIUM FOR NON-TUBERCULOUS CASES,
NEAR CHRISTIANIA.

near Larvik, was established in 1892. I visited this beautifully situated sanatorium, and was shown over the whole establishment by Dr. Sinding-Larsen and his resident medical officer. Although built of wood, at a cost of but little more than £100 a bed, it is well adapted

for its purpose. It is intended for scrofulous and tuberculous children between the ages of four and fifteen. Pulmonary cases are not received. Operative interference is undertaken when necessary, but the modern spirit of conservative surgery in regard to tuberculous cases appears to prevail. There is another sanatorium of a somewhat similar kind at Hagevik, near Bergen, for the conduct of which Dr. Gade is responsible.

With the climatic and other advantages which Norway enjoys, it seems certain that before long Norwegians themselves, as well as Englishmen and others, will realize more clearly the wisdom of taking advantage of the opportunities at present existing, and providing for an expansion in the future.

Winter Sanatoria for Non-Tuberculous Cases.

Within the limits of this article it is impossible to describe the admirable winter sanatoria for non-tuberculous cases, and suited specially to those requiring a rest cure, "change of air," and the fascination of winter sport. Chief among these are the justly popular establishments within tram reach of Christiania—Voxenkollen, conducted by Dr. I. C. Holm, and Holmenkollen, by Dr. O. Bergh. As a particularly quiet and charming retreat, I was much struck with Anne Kure's Hotel, which lies between these two, and is very highly spoken of by Norwegians.

Tonsaasen, in Valdres, is another much frequented health resort. Originally consumptives were received, but now this class of case is excluded.

In Gudbrandsdal there are several charming health stations open in the winter, and chief among them should be placed Töfte Sanatorium, which can be easily reached from Hundtorp Station, on the line from Hamar to Otta. Here the climatic advantages of a "Høfilds" Station can be realized, and opportunities for various forms of winter sport obtained. Mr. John Sørensen and his wife reside here, and take an active interest in the welfare of all their guests. In the summer a still higher sanatorium—a "Høfilds" Health Station, belonging to Mr. Sørensen—is open.

T. N. KELYNACK, M.D.

REVIEWS AND NOTICES OF BOOKS.

SANATORIA FOR CONSUMPTIVES.

THE tuberculosis problem is one which clearly can only be fully solved by State agency. The notable report¹ of Dr. H. Timbrell Bulstrode will do much to direct thought and action along right channels. The work is not only a monument to patient long-continuance in discriminating investigation and wise discernment in the presentation of facts, but, if we mistake not, will be epoch-marking in its influence. It must remain for long our most authoritative reference on the subject of sanatoria for consumptives. The work has been elaborated in no mere perfunctory manner. The author has devoted the best part of five years to its preparation, and has studied his subject with scientifically directed enthusiasm and thoroughness, as is evidenced by every page of this bulky volume. Dr. Bulstrode very wisely devotes the first seven chapters to a well-balanced and comprehensive presentation of those various views regarding the nature of tuberculosis and its ætiological factors which have exercised influence upon practical measures for preventing and arresting the malady. He then deals with the evolution of the sanatorium, and indicates the statutory powers possessed by various authorities for the erection or acquirement or support of such establishments. Dr. Bulstrode is evidently of opinion that while the immediate results of sanatorium treatment are, in the main, decidedly encouraging, the economic value of the remote effects are more doubtful. His suggestions respecting the manner and method of recording returns and selecting cases deserve the most careful consideration. He wisely dwells on the advantages of such a system as that employed in Germany, whereby, by compulsory insurance of work-people, early and adequate treatment may be obtained in case of need. The much-discussed question of "Notification of Pulmonary Tuberculosis" is dealt with, and it seems clear that Dr. Bulstrode does not advocate compulsory notification, except under such special enactment as expressly dissociates pulmonary tuberculosis from ordinary infectious diseases. The major part of the volume is devoted to an account of the public sanatoria in England and Wales, and to considerations of statistics relative to patients treated in them. This is a most valuable and important section, giving, as it does, much information not elsewhere attainable. Dr. Bulstrode has accomplished this particularly difficult portion of his task with conspicuous success. The accompanying illustrations are numerous and well executed. A very valuable feature is the admirable map indicating the situation of the various public and private sanatoria and hospitals for the tuberculous sick in this country. This report should be in the hands of every one concerned in any way with our institutional measures for the arrest and alleviation

¹ "Report on Sanatoria for Consumption and certain other Aspects of the Tuberculosis Question." By H. Timbrell Bulstrode, M.D. Thirty-fifth Annual Report of the Local Government Board. Supplement in continuation of the Report of the Medical Officer for 1905-1906. Pp. xii + 670. London: Wyman and Sons, Ltd. 1908. Price 10s. 2d.

of consumption. It is little less than lamentable that such an important work should have been issued without a comprehensive index. Surely this lack can be made good in any future edition, which doubtless will be speedily called for. We trust that reports on similar lines dealing with the problem as it concerns Scotland and Ireland and other parts of our Empire will speedily be arranged for. It is to be hoped, also, that it may be possible to arrange for Dr. Bulstrode to extend his researches by a comparative study of new and practical methods now being employed with manifest advantage in other lands.

T. N. KELYNACK, M.D.

GERMAN STUDIES ON TUBERCULOSIS.

The last two numbers of the German "Tuberkulose-Arbeiten"¹ recently issued contain many interesting articles on various comparative points of human and bovine tubercle. In the opening article Dr. A. Weber, who is responsible for most of the work in these two volumes, expresses the view that the division into *typus humanus* and *typus bovinus* is possible on the grounds of morphology, cultural characteristics, and virulence for rabbits and bovines. Like Koch, he discards intravenous injection in animals as unreliable, and recommends subcutaneous inoculation. The collected results of his examination of the variety of tubercle bacillus present in cases of human tuberculosis is especially valuable. In 54 adults the bacillus was in all cases of the human type, but among 84 cases of tuberculosis in children no less than 21 were infected with the bovine bacillus. Of these 21 cases, 13 occurred among 20 cases of primary abdominal tuberculosis, 6 were found in 16 cases of tuberculosis of neck glands; on the other hand, 18 cases of lung tubercle, with subsequent general tuberculosis, all gave bacilli of the human type, as also did all but one of 27 cases of bone and joint tubercle. In a second article Dr. Weber and Dr. M. Taute describe further researches which lead them to the conclusion that bovine tuberculosis in the human is only found in childhood, and is generally an intestinal infection. Among 16 further cases of bovine origin in children, 2 had tuberculosis of neck glands and 13 occurred among 22 cases of primary abdominal tuberculosis. This result is comparable to that recorded by the British Tuberculosis Commission of 10 cases due to *typus bovinus* among 19 cases of primary abdominal tuberculosis. Very interesting are the inquiries at the end of this article into a possible human source of infection among cases due to the different types of organism. Among 31 cases of bovine origin, in only 1 was tuberculosis found in the home. All the facts point to bovine tuberculosis in man as a "Fütterungstuberkulose." In the third article Dr. Weber tests the claims of Von Behring, De Jong, and others, that *typus humanus* may be changed into *typus bovinus*. Dr. Weber finds no increase of virulence result from the passage of *typus humanus* over long periods through goats, pigs, and cattle, and concludes that no alteration of type is obtained by prolonged residence in the animal host. The succeeding paper by Dr. Oehlecher on the relation of so-called "surgical" tuberculosis to the two types of organism opens with a useful review of the whole subject

¹ "Tuberkulose-Arbeiten aus dem Kaiserlichen Gesundheitsamte." Heft vi., Ss. 219; Heft vii., Ss. 102. Berlin: Verlag von Julius Springer. 1907.

of the relations of *typus humanus* to *typus bovinus*. He next describes in detail the manner in which the research was carried out and the points by which the two types can be distinguished. We strongly recommend the perusal of this paper to anyone who desires to work on these lines; especially valuable will he find a short included study of the common diseases of rabbits. As the result of his researches, he finds among 12 cases of tuberculosis of neck glands in children 4 were caused by the bovine bacillus. Among 34 cases of tuberculosis of bones and joints, only 1 (a joint) was infected with this organism. Yet these cases were specially chosen as those in which the *typus bovinus* seemed most likely to be found. He concludes, with good reason, that the infection of bones and joints in children commonly arises from tuberculous foci in bronchial glands or lungs. In vol. vii. Dr. Weber and Dr. Titze describe some experiments on the immunization of cattle against tuberculosis, and Dr. Oehlecher contributes to this volume some careful observations on the spread of artificially produced tuberculosis in animals. In the third and last research Dr. Weber and Professor Baginsky have tested by animal inoculation how often the tubercle bacillus is to be found in apparently healthy glands and tonsils of children; they find it once only among 26 cases. In looking back over the work included in these two interesting volumes, certain points are of sufficient importance to merit recapitulation. Foremost among them stand two facts—first, that the bovine bacillus is no cause of tuberculosis of adult life; and, second, that it is an important cause of tuberculosis in childhood, and especially of tuberculosis of alimentary origin—i.e., of the neck glands and abdominal organs. Given that cases of tuberculosis of this variety form but a small percentage of all cases of tuberculosis in children, we still have here strong proof of the danger of tuberculous cattle to the community, and of the urgent need for more stringent measures to stamp out this evil.

CLIVE RIVIERE, M.D.

TUBERCULOSIS AND SYPHILIS.¹

The manner in which tuberculosis and syphilis interact upon each other and form combinations, although a subject of great importance, is not sufficiently recognized. Sergeant, in his new monograph, gives an admirable account of the subject, based on considerable personal experience and much sound scientific reasoning. The differential diagnosis between syphilitic and tuberculous lesions in the different organs, and the combinations of the two diseases in the form of "hybrid lesions," are well described. He emphasizes the fact that syphilis (both acquired and hereditary) predisposes to tuberculosis, by creating a syphilitic soil, which is a favourable one for the tubercle bacillus. The influence of this soil is especially seen in syphilitic heredity, where "the syphilization of the father prepares a soil for the tuberculization of the child." Sergeant points out that in double infection with syphilis and tubercle we may have two conditions—(1) a syphilitic patient who contracts tubercle; (2) a tuberculous subject who contracts syphilis. In the first case the tubercle is milder in its course, and tends to fibrosis, owing to the fibrous tendency induced by syphilis; in the

¹ "Syphilis et Tuberculose. Par Émile Sergeant. Pp. 316. Paris: Masson et Cie, 120, Boulevard Saint Germain. 1907. Price 5 francs.

second case the condition, although at first aggravated, benefits under mercurial treatment. It is rightly urged that mercurial treatment in such cases always benefits the tuberculous process, contrary to the ideas of older writers. The work is an important contribution, and should be studied by the general practitioner, as well as by specialists in syphilis and tuberculosis.

C. F. MARSHALL, M.D.

THE INTERNATIONAL CONFERENCE ON TUBERCULOSIS.

The report of the International Tuberculosis Conference¹ held at Vienna last September has been issued with commendable promptitude. It consists of a handsome volume containing records of the proceedings in German, French, and English, the latter of which might with advantage have been revised by an English colleague. There is much matter of both scientific interest and practical value in these pages. The discussions deal with such important subjects as the paths of tuberculous infection, compulsory notification, and the cost of sanatoria. Perhaps the most valuable portion consists of the "Reports concerning the Progress of the Tuberculosis Campaign in different Countries." It is a volume which no serious student of the tuberculosis problem can afford to neglect. We congratulate Professor Pannwitz on this fresh evidence of the activity and service of the International Anti-Tuberculosis Association, of which he has so ably fulfilled the duties of Secretary-General.

CLIMATO-THERAPY AND TUBERCULOUS CHILDREN.

Too little attention has been devoted to the rôle of climate in the management of childhood. Dr. Wachenheim is to be congratulated on having gathered into one compact and well-arranged volume the available material on the subject.² Although written mainly from the American standpoint, it deserves to be widely read on both sides of the Atlantic. After indicating the general principles of climato-therapy, and detailing the chief points in the climatology of temperate North America, the chief health resorts suitable for children are enumerated, including those in Western and Central Europe and along the shores of the Mediterranean. The effects of climate on the normal child are discussed, and indications given for selection in particular constitutional states and local affections. To us the most important chapter is that which deals with the climato-therapy of scrofulosis and tuberculosis. For forms of "surgical" tuberculosis a plea is made for sufficiency of treatment: "The allowance of a few weeks in summer at our sanatoria for children can be regarded only as a wretched apology for treatment." For pulmonary and other "visceral" forms of tuberculosis "the very cold climates are absolutely barred from consideration." Whilst the author seems to agree that the seaside in many so-called "scrofulous" cases is advantageous, we gather that he is of opinion

¹ "The Report of the Sixth International Tuberculosis Conference." Edited by Professor Dr. Pannwitz. Pp. 315. Berlin-Charlottenburg: Internationale Vereinigung gegen die Tuberkulose. 1907.

² "The Climatic Treatment of Children." By Frederick L. Wachenheim, M.D., Chief of Clinic, Children's Department, Mount Sinai Hospital Dispensary, New York. Pp. 400. New York: Rebman Company. 1907.

that in a well-selected inland resort equally good, if not better, results may be expected. The construction and management of sanatoria is briefly referred to. There is a useful general bibliography. The work is full of interest, stimulates thought, conveys much information, and forms a valuable addition to the subject of the climatic management of childhood.

THE PROTECTION OF INFANCY AND CHILDHOOD.

One of the most hopeful signs that progress is really being made in the evolution of the race is the rapidly increasing attention and study which are being given to all matters concerned with the preservation and development of the young. Professor Kerley has just issued an ideal work for the busy practitioner on the practical conduct of modern methods of management of children.¹ The advice given is based on personal experience, and is exactly what is required by the family doctor. Special praise must be given to the sections on nutrition and growth, with their explicit directions respecting infant feeding, and the illustrations accompanying the description of gymnastic therapeutics. A list of drugs, with their dosage, is given, and will be of service for reference.

Another somewhat novel American work on pediatrics is that of Dr. Radue, based on "the dosimetric or alkaloidal treatment," but also containing many practical suggestions regarding the management of children, and lengthy tables of "Diseases, with the drugs used in their treatment," and "Remedies and their doses, arranged from the first to the tenth year."²

Mr. Haydn Brown has written a well-intentioned popular manual for women, and in urging that "a more perfect parentage shall be sought to produce a more creditable offspring," he deals with "matters medical, philosophic, and æsthetic," which, though perhaps not altogether welcome to the old-fashioned critic, is nevertheless no doubt likely to quicken the health-conscience of the modern woman.³

Dr. Pritchard's volume of lectures on the care of infants forms an able exposition, expressed in easily understood language, concerning ante-natal hygiene, rational feeding, the formation of habits, and the place and needs of the infant in the home—all agencies of the greatest anti-tuberculosis value.⁴

Mr. Bishop Harman's monograph on ophthalmia is a valuable contribution to preventive medicine.⁵ He shows that more than one-third of the blindness found amongst school-children arises from

¹ "Treatment of the Diseases of Children." By Charles Gilmore Kerley, M.D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital. Pp. 597. With 71 figures. Philadelphia and London: W. B. Saunders Company. 1907.

² "The Diseases of Children." By W. F. Radue, M.D. Pp. 165. Chicago: The Clinic Publishing Company. 1907.

³ "The Wife: Her Book." By Haydn Brown, L.R.C.P. Pp. 307. London: Sisley's, Ltd. 1907. Price 3s. 6d. net.

⁴ "Infant Education." By Eric Pritchard, M.A., M.D., M.R.C.P. With a Preface by A. Wynter Blyth, M.R.C.S. Pp. 190. London: Henry Kimpton. 1907.

⁵ "Preventable Blindness: an Account of the Disease known as the Ophthalmia of the New-born, and of its Effects; with a Plea for its Suppression." By N. Bishop Harman, M.A., M.B., F.R.C.S. Pp. 109. London: Baillière, Tindall and Cox. 1907. Price 2s. 6d. net.

infectious ophthalmia, and seems to justify his contention that in compulsory notification will be found the best means whereby its arrest and prevention may be secured.

Sandow's system of physical exercises has gained much popularity, and in suitably selected cases undoubtedly is capable, under skilled direction, of effecting much benefit. Medical practitioners will therefore do well to study the interesting, instructive, and elegantly illustrated volume which Mr. Sandow has recently issued explanatory of his methods, and which he has also dedicated to "the medical profession."¹

MANUALS FOR THE MEDICAL PRACTITIONER.

It is always necessary for the general practitioner, as well as the specialist engaged in the treatment of chronic pulmonary and laryngeal affections, to remember the far-reaching and multifarious manifestations of syphilis; and to such we specially commend the admirable collection of essays by officers of the Royal Army Medical Corps, and issued under the able editorship of Lieutenant-Colonel C. H. Melville.² It is a most practical and up-to-date manual.

The new volume on medical diagnosis prepared by Dr. C. Lyman Greene³ possesses many excellent points which will make it popular. It is concise, thoroughly up-to-date, well arranged with helpful marginal notes, clear headlines, many small but well-defined plates, diagrams, and illustrations, and is excellently printed, well bound, and gilt-edged. As a precise and reliable work for easy reference it should find much favour in the land of its birth and also among all English-reading students and practitioners.

Dr. J. Dulberg has done well to prepare an abridged edition of the well-known work edited by Senator and Kaminer, dealing with health and disease and marriage, a collection of essays of much interest and permanent value to all students of man and his ways.⁴ The very important matter of the marriage of tuberculous subjects is dealt with in a judicious and scientific manner, and merits the consideration of all having to advise in regard to this important contract.

Dr. Gulick's volume of essays on efficient living is written in crisp, virile, strenuous American-English of the best, and it deals in a thoroughly helpful manner with the facts and follies, the needs and indiscretions, of daily life.⁵ It is a work making for health and happi-

¹ "The Construction and Reconstruction of the Human Body. A Manual of the Therapeutics of Exercise." By Eugen Sandow. With a foreword by Sir Arthur Conan Doyle, M.D. Pp. 164. With manikin and plates. London: John Bale, Sons and Danielsson, Ltd. 1907.

² "A Manual of Venereal Diseases." By Officers of the Royal Army Medical Corps. Pp. 282. London: Henry Frowde, and Hodder and Stoughton. 1907. Price 5s. net.

³ "Medical Diagnosis." A Manual for Students and Practitioners. By Charles Lyman Greene, M.D., Professor of the Theory and Practice of Medicine in the University of Minnesota, etc. Pp. 683. With 7 coloured plates and 230 illustrations. Philadelphia: P. Blakiston's Son and Co. 1907. Price \$3.50.

⁴ "Marriage and Disease." An abridged edition of "Health and Disease in Relation to Marriage and the Married State." Edited by Professor H. Senator and Dr. S. Kaminer. Translated from the German by J. Dulberg, M.D. Pp. 452. London: Rebman, Ltd. 1907. Price 10s. 6d. net.

⁵ "The Efficient Life." By Luther H. Gulick, M.D., Director of Physical Training in the New York City Schools. Pp. 195. New York: Doubleday, Page and Co. 1907. Price \$1.20 net.

ness, which every one caught in the whirl of modern activities should find time to consider. The book is dedicated to the President of the United States, and as frontispiece there appear snapshots of Theodore Roosevelt in striking attitudes most characteristic and expressive of various emotions.

There is no wonder-world like that revealed by the scientist, and Dr. Macfie has earned lasting thanks by his graceful and informing studies of the romantic in medical discovery.¹ The book is attractively written in pure, descriptive English, manifesting a sympathy and enthusiasm which is peculiarly fascinating. Every page testifies to far-extending research. It is a work which every naturalist, and particularly every physician, should make a point of reading.

The pathology and treatment of life's minor ailments are often neglected, and yet frequently it is the commonplace which determines the development of greater disabilities. Dr. Wynter's new work² will appeal to all newly qualified practitioners, for it is full of descriptions, suggestions, and practical directions concerning everyday difficulties. Here is helpful advice on such clinical perplexities as baldness, chilblains, "throats," headaches, sea-sickness, and many other troublesome morbid states. There is also an excellent collection of formulæ.

Dr. Sajous, in the recently issued bulky volume of his monumental work on "Internal Secretions,"³ devotes much space to a setting forth of his views on the effects of the adrenal system on pulmonary tuberculosis, and brings forward numerous facts and views of interest, with many references to modern literature on tuberculosis.

The ideas of Dr. Monteuis, of Sylvabelle, on the French Riviera, concerning the ameliorative and curative action of natural physical agencies have now been rendered available to English readers,⁴ but we fear the open-air sun-bath which he advocates is hardly likely to become popular under such climatic conditions as usually prevail in Great Britain.

Medical officers of health and others responsible for the inspection and protection of our food-supplies should be acquainted with Dr. Vacher's helpful manual.⁵ It contains valuable particulars concerning the examination of tuberculous milk and meat.

The latest volume of the reference work appearing under the able editorship of Dr. J. W. Ballantyne⁶ contains important articles on "Tuberculosis of the Lungs," by Dr. R. W. Philip, and "Tuberculous Meningitis," by Professor G. F. Still. These concise presentations are to be particularly commended to busy practitioners.

¹ "The Romance of Medicine." By Ronald Campbell Macfie, A.M., M.B., C.M. Pp. 312. With 7 plates. London: Cassell and Co., Ltd. 1907. Price 6s.

² "Minor Medicine: a Treatise on the Nature and Treatment of Common Ailments." By Walter Essex Wynter, M.D., B.S., F.R.C.P., F.R.C.S. Pp. 275. London: Sidney Appleton. 1907. Price 6s. net.

³ "The Internal Secretions and the Principles of Medicine." By Charles E. de M. Sajous, M.D. Vol. ii. Pp. xxv, 801-1873. With 25 illustrations. Philadelphia: F. A. Davis Company. 1907.

⁴ "Air, Light, and Sun Baths in the Treatment of Chronic Complaints." By Dr. A. Monteuis. Translated from the French by Fred Rothwell. Pp. 73. London: John Bale, Sons and Daniellson, Ltd. 1907.

⁵ "The Food Inspector's Handbook." By Francis Vacher, M.O.H. Fourth edition. Illustrated. Pp. 231. London: The Sanitary Publishing Co. Price 3s. 6d. net.

⁶ "Green's Encyclopædia and Dictionary of Medicine and Surgery." Vol. vi. Pp. 562. Edinburgh and London: William Green and Sons. 1907.

The illustrated work on artificial limbs issued by Mr. Marks, and termed an "exposition of prothesis," should interest orthopaedic surgeons and those having to advise respecting substitutes for lost extremities.¹

An ingenious, suggestive, but purely speculative monograph has been written by Dr. Henry D. McCulloch on the rôle of the leucocyte in the production of specific vaccines in cancer, tuberculosis, and other infections.²

All concerned with the practical use of chemical disinfectants in sanatoria and elsewhere would do well to consult the informing guide to the bacteriological investigation of these agents prepared by Mr. W. Partridge,³ for it presents in accurate form the best methods of examination, and explains the nature of the carbolic acid coefficient, the Rideal-Walker test, and the proposed standardization of disinfectants.

Dr. Claud F. Fothergill's brochure on blood examination⁴ is a plea and an argument for the study of blood conditions in patients suffering from disease acquired abroad.

A helpful summary of much new work relating to tuberculosis is given in the first volume of the American Practical Medicine Series.⁵

A new edition has just been issued of Princess Christian's translation of Professor Esmarch's now classic ambulance lectures, and should be known and used by all responsible for instruction classes on first aid.⁶

Dr. Humphry's most popular and in every way admirable treatise on nursing has now reached its thirtieth edition.⁷ Although it contains much concerning the management of tuberculous cases, a section on sanatorium routine and open-air methods might well be added in the next issue.

In the conduct of a sanatorium and the treatment of the tuberculous the consideration of food and cookery must receive a foremost place, and to those responsible for such we commend an ingenious and suggestive manual recently issued on the preparation of the potato, one of the important elements of an ordinary dietary.⁸

¹ "Manual of Artificial Limbs." Pp. 430. Issued by A. A. Marks, 701, Broadway, New York. 1907.

² "Stray Leaves and Some Fruit on Cancer and Tuberculosis." By Henry D. McCulloch, M.B. Pp. 49. With diagrams and a chart. Bournemouth: W. Mate and Sons, Ltd. 1907. Price 10s. 6d. net.

³ "The Bacteriological Examination of Disinfectants." By William Partridge, F.I.C. With a Preface by C. E. P. Fowler, D.P.H., F.R.C.S. Pp. 66. London: The Sanitary Publishing Co., Ltd. 1907. Price 2s. 6d. net.

⁴ "Blood Examination, and its Value in Tropical Disease." By Claud F. Fothergill, B.A., M.B., B.C. With a Preface by Major Ronald Ross, F.R.S., C.B. Pp. 34. London: Henry Kimpton. 1907. Price 2s. 6d. net.

⁵ "The Practical Medicine Series." Under the general editorial charge of Gustavus P. Head, M.D. Vol. i.: General Medicine. Edited by Frank Billings, M.S., M.D., and J. H. Salisbury, A.M., M.D. Pp. 364. Chicago: The Year-Book Publishers. 1907.

⁶ "First Aid to the Injured: Six Ambulance Lectures." By Dr. Friedrich Esmarch, Professor of Surgery in the University of Kiel. Translated from the German by H.R.H. Princess Christian. Seventh and enlarged edition. Pp. 138. With 46 figures. London: Smith, Elder and Co. 1907. Price 2s. net.

⁷ "A Manual of Nursing: Medical and Surgical." By Lawrence Humphry, M.A., M.D., F.R.C.P. Thirtieth edition. Pp. 255. With 79 figures. London: Charles Griffin and Co. 1907. Price 3s. 6d.

⁸ "Potato Cookery: Three Hundred Ways of Preparing and Cooking Potatoes." By Alfred Suzanne and C. Hermann Senn. With an Introduction by J. C. Buck-

The most rational method for the disposal of cases dying with tuberculosis and other infectious diseases, whatever may be the important sentimental and other objections, is undoubtedly by cremation, and all interested in this hygienic procedure and the adequate provision for its conduct should study Mr. Freeman's informing brochure.¹

The Thermometer is "the organ of Nordrach-on-Dee Sanatorium, Banchory, N.B.," and is a model of what a "home-made" journal should be. The Christmas number, which reached us too late to notice in our last issue, is an illustrated and humorous production of high merit. We congratulate Dr. Lawson and his patients on the possession of such a publication.

*The Norwegian Club Year-Book*² for 1907 is edited by Mr. T. Olaf Willson, and contains illustrations and articles dealing with many phases of life and thought in the land of the Norseman.

The Year-Book of the Ski Club of Great Britain,³ edited by E. C. Richardson and beautifully printed, with numerous illustrations, contains notes on the great Scandinavian sport of ski-ing as practised in different parts of the world.

The Winter Sports Annual for 1907-1908,⁴ edited by E. Wroughton, is an invaluable record, calendar, and directory for those who have the wisdom and opportunity of engaging in the health-giving sports of winter in this and, more particularly, other lands.

Charities and the Commons,⁵ in its last volume, No. XVIII., among many valuable articles dealing with almost every form of philanthropic enterprise, devotes considerable attention to the various agencies making for the extermination of tuberculosis in America.

master, M.A. Pp. 124. London: The Food and Cookery Publishing Agency, 329, Vauxhall Bridge Road, S.W. 1907. Price 1s. 6d. net.

¹ "Cremation: The Planning of Crematoria and Columbaria." By Albert C. Freeman. Pp. 20. London: A. C. Freeman, 72, Finsbury Pavement, E.C. Price 1s. net.

² Published by the Norwegian Club, 112, Strand, W.C.

³ Published for the club by W. J. Hutchings, Hillingdon Press, Uxbridge, W. Price 1s.

⁴ Published by Messrs. Simpkin, Marshall and Co. Price 2s.

⁵ Published by the New York Charity Organization Society, 105, East 22d Street.

PREPARATIONS AND APPLIANCES.

MARAGLIANO'S ANTI-TUBERCULOUS SERUM.

PROFESSOR MARAGLIANO'S anti-tuberculous serum is now prepared under the control of the Italian Government at the "Istituto per lo Studio e la Cura della Tuberculosis e di altre Malattie Infettive" at Genoa, under the superintendence of Professor Maragliano himself. Messrs. Oppenheimer, Son and Co., Ltd.,¹ have been appointed the British agents, and inform us that "the Institute would be willing to supply some of the serum to any institution specially arranged for the treatment of phthisis free of charge, so as to enable the medical staff to confirm the results already obtained." The same firm will provide full particulars concerning the nature, characteristics, and effects of the serum to any physician communicating with them.

PLASMON PREPARATIONS.

PLASMON is a preparation of the soluble albumin of fresh milk.² It is a dry milk-powder, from which fat, sugar, and water have been removed. It is estimated that from 100 pounds of milk 3 pounds of plasmon can be prepared. Plasmon is a highly concentrated, tasteless, and odourless food, easily digested, readily assimilated, and acts as a powerful nutrient. It can be added to and cooked with almost every kind of liquid and solid food, and thus is capable of being administered in infinite variety. It has freely satisfied the most searching chemico-physiological inquiries. For consumptives and all tuberculous patients it is most valuable. Plasmon contains not only the casein of milk, but also the important phosphates and organic salts. For children of tuberculous tendency it is of the greatest value. In both health and disease and at every period of life it is of service. Plasmon oats deserves special praise, and forms one of the cheapest, most nourishing, and delicious of dishes for the breakfast-table. Plasmon bread is also of excellent quality.³ Diabetics may also obtain special Plasmon Diabetic Biscuits.⁴ Indeed, the varieties and benefits of Plasmon seem limitless.

FORMATHOL.

In the new FORMATHOL TABLETS⁵ formic aldehyde, combined with menthol in association with suitable adjuvants, forms an admirable antiseptic preparation for the treatment of various septic conditions of the mouth and throat. Pyorrhœa alveolaris and other morbid conditions of the buccal cavity and fauces are very common in consumptive cases, and for such formathol will be of real service. They are

¹ Messrs. Oppenheimer, Son and Co., Ltd., have their London offices at 179, Queen Victoria Street, E.C.

² Supplied by International Plasmon, Ltd., 66, Farringdon Street, E.C.

³ Manufactured by the Plasmon Bread Company, Ltd., 66A, Farringdon Street, E.C.

⁴ Supplied by Messrs. Callard and Co., 74, Regent Street, W.

⁵ Manufactured by Arthur H. Cox and Co., Ltd., Brighton.

very palatable, and should speedily displace the old-fashioned and troublesome gargle. For children they are particularly useful.

A NOVEL FOOT-WARMER.

Many consumptives and other tuberculously disposed persons suffer much from cold feet. To such open-air treatment, unless properly arranged, may mean much misery. We have recently tested a new HEATER¹ which might well be used in sanatoria, and deserves to be known by all travellers and those using carriages and motors. It consists of a metal box $14\frac{1}{2} \times 8 \times 4\frac{1}{2}$ inches, with flat, slanting top, covered with Brussels carpet, and with ends of polished steel, nickelled. At the sides and the ends are readily adjusted ventilators. Heating is maintained by the use of cakes of specially prepared coal. One of these is put in a fire for ten minutes until red hot right through, and then placed in the drawer of the heater, and continues to provide continuous warmth for upwards of twelve hours. This neat, ingenious, and economic warmer will be appreciated by many in this country during winter months.

HYGIENIC REQUISITES.

For the limitation and improvement of open fire-grates a very simple and economic form of FIREBRICK² will be found in the "Quick-fit Units," which consist of ingenious interlocking divisions, allowing the heated air to issue from the ash-proof holes, thus aiding much in the perfect combustion of the coals and preventing waste. We have tried them, and can recommend them.

A SANITARY COVER, termed the "Toila,"³ and intended for use with the seats of ordinary water-closets, is a well-intentioned invention, which should be of service in hotels and public institutions, and may be of advantage to travellers in insanitary countries.

CYLLIN has rightly won distinction as one of the most convenient, safe, effective, and economic of the many disinfectants clamouring for recognition. Its various preparations are now so well known and appreciated by the medical profession as hardly to require enumeration. We desire, however, to draw attention to the latest novelty introduced by the manufacturers of cyllin: CYLLINETTE⁴ is a particularly neat and convenient form of compressed sanitary towel. Its size is so diminutive that it can be concealed in a stocking, and yet it is highly efficient, strictly hygienic, and economic.

¹ The New Foot-warmer has been introduced by the Stewart and Clark Manufacturing Company, and may be obtained from their London agency, 11, Denmark Street, Charing Cross Road, W.C. (Price 12s. 6d.)

² Manufactured by W. P. Bonwick, 40, Clinton Road, Bow, E.

³ Supplied by Jules Lang and Son, 16, Bury Street, St. Mary Axe, E.C.

⁴ Manufactured by Jeyes' Sanitary Compounds Company, Ltd., 64, Cannon Street, E.C.

NOTES AND NOTICES.

A NATIONAL SANATORIUM FOR CHILDREN THREATENED WITH TUBERCULOSIS.

FRANCE has for long wisely devoted special attention to "les enfants pré-tuberculeux." And now in this land a special institution in connexion with the National Children's Home and Orphanage is to be established for tuberculously disposed children. The scheme was inaugurated at the Mansion House on February 19 last, when the Right Hon. the Lord Mayor of London presided, and was supported by Sir R. Douglas Powell, Bart., K.C.V.O., President of the Royal College of Physicians, Sir Thomas Barlow, Bart., K.C.V.O., and a



PROPOSED SANATORIUM FOR CHILDREN OF TUBERCULOUS TENDENCY.

large and influential body of medical and lay supporters. Among the 2,000 children cared for by the above institution, 25 per cent. are of tuberculous parentage. This movement is one of national importance, and we are glad to know that already about half the necessary funds for the erection of a thoroughly modern and well-equipped sanatorium have been subscribed. We are able to give an illustration of the proposed sanatorium, the plans of which have been prepared by Messrs. Holman and Goodrham, architects, of 6, King's Bench Walk, Temple, E.C. All desirous of supporting so praiseworthy an effort should communicate at once with the Rev. Dr. Gregory, the Principal, at the London offices, Bonner Road, N.E.

DAY TREATMENT OF CONSUMPTIVES.

The House of the Good Samaritan in Boston, Massachusetts, U.S.A., is accomplishing much for the consumptive. It is a well-equipped

modern hospital with forty-two beds, with one wing devoted to the care of advanced cases of tuberculosis. The hospital is situated on a plot of

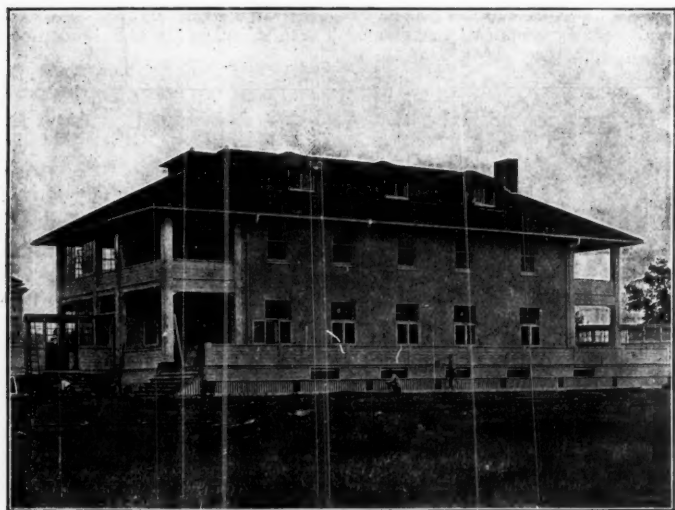


DAY PATIENTS UNDERGOING OPEN-AIR TREATMENT IN THE GROUNDS OF THE HOUSE OF THE GOOD SAMARITAN IN BOSTON, U.S.A.

land about an acre in extent. To this hospital twenty-five patients with tuberculosis in various stages come each day. A nurse receives them, and takes their temperature and pulse. At 10.30 they have a lunch of bread-and-butter and milk; at noon they have the regular house-dinner; at 4.30 they again have bread-and-milk, and then go to their homes. On Sundays the nurse visits the patients in their homes, sees how they live, and makes appropriate suggestions to them, and reports what she has seen to the doctor in charge. Dr. Arthur K. Stone, who has favoured us with these particulars, says: "The results are most gratifying, and the patients have come every day throughout the year, winter as well as summer, thus showing their appreciation and co-operation. The additional expense to the hospital has been the cost of the food and the wages of the nurse and a kitchen assistant." An enterprise such as this might well be followed in many countries. We are indebted to Dr. Hinsdale for permission to reproduce the accompanying suggestive photograph.

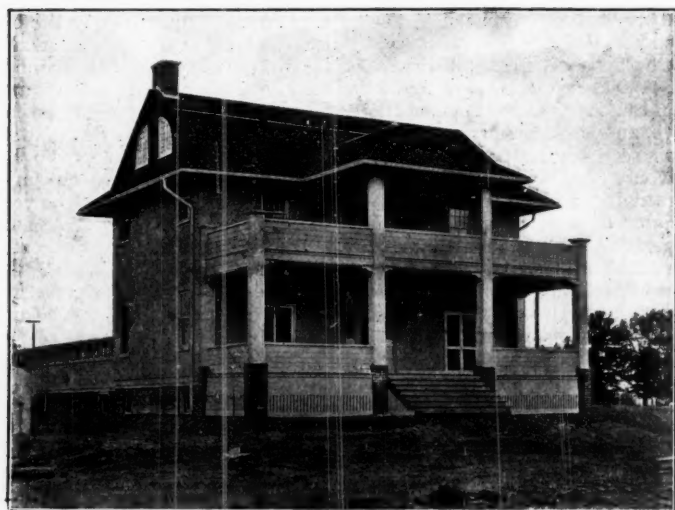
THE KING EDWARD SANATORIUM FOR CONSUMPTIVES, CANADA.

Canada has an interesting quartette of institutions for consumptive cases. The Muskoka Cottage Sanatorium (of which we gave illustrations in this Journal, April, 1907) was established for incipient cases in 1896. The Muskoka Free Hospital for Consumptives followed in 1902. In 1904 the Toronto Free Hospital for advanced cases was founded. And now a somewhat similar institution for paying cases has been



MULLHOLLAND BUILDING FOR ADVANCED CASES OF CONSUMPTION,
KING EDWARD SANATORIUM, NEAR TORONTO, CANADA.

The gift of Robert Mullholland, Esq.



THE HAMMOND ADMINISTRATION BUILDING OF KING EDWARD SANA-
TORIUM FOR CONSUMPTIVES, NEAR TORONTO, CANADA.

The gift of H. C. Hammond, Esq.

recently opened, and named, by special permission of His Majesty, the King Edward Sanatorium for Consumptives. Of this new institution we are able to give two illustrations. The chairman of the Trust is W. J. Gage, Esq. Dr. W. J. Dobbie is the physician-in-charge. All particulars may be obtained from the secretary, Mr. J. S. Robertson, 347, King Street West, Toronto, Canada.

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

The Central Committee of the International Congress on Tuberculosis (to be held in Washington from September 21 to October 12 next) have announced the offer of the following prizes:

I. A prize of \$1,000 is offered for the best evidence of effective work in the prevention or relief of tuberculosis by any voluntary association since the last International Congress in 1903. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. Evidence is to include all forms of printed matter, educational leaflets, etc.; report showing increase of membership, organization, classes reached, such as labour unions, schools, churches, etc.; lectures given; influence in stimulating local boards of health, schools, dispensaries, hospitals for the care of tuberculosis; newspaper clippings of meetings held; methods of raising money; method of keeping accounts. Each competitor must present a brief or report in printed form. No formal announcement of intention to compete is required.

II. A prize of \$1,000 is offered for the best exhibit of an existing sanatorium for the treatment of curable cases of tuberculosis among the working classes. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

III. A prize of \$1,000 is offered for the best exhibit of a furnished house for a family or group of families of the working class, designed in the interest of the crusade against tuberculosis. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. This prize is designed to stimulate efforts towards securing a maximum of sunlight, ventilation, proper heating, and general sanitary arrangement for an inexpensive home. A model of house and furnishing is required. Each competitor must present a brief with drawing, specifications, estimates, etc., with an explanation of points of special excellence. Entry may be made under competitor's own name.

IV. A prize of \$1,000 is offered for the best exhibit of a dispensary or kindred institution for the treatment of the tuberculous poor. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

V. A prize of \$1,000 is offered for the best exhibit of a hospital for the treatment of advanced pulmonary tuberculosis. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

VI. The Hodgkins Fund Prize of \$1,500 is offered by the Smithsonian Institution for the best treatise that may be submitted on "The Relation of Atmospheric Air to Tuberculosis." The detailed definition of this prize may be obtained from the Secretary-General of the International Congress or the Secretary of the Smithsonian Institution, Chas. D. Walcott.

VII. *Prizes for Educational Leaflets.*—A prize of \$100 is offered for the best educational leaflet submitted in each of the seven classes defined below. In addition to the prize of \$100, a gold medal and two silver medals will be awarded in each class. Each prize and medal will be accompanied by a diploma or certificate of award. Competitors must be entered under assumed names.

- (a) For adults generally (not to exceed 1,000 words).
- (b) For teachers (not to exceed 2,000 words).
- (c) For mothers (not to exceed 1,000 words).
- (d) For indoor workers (not to exceed 1,000 words).
- (e) For dairy farmers (not to exceed 1,000 words).
- (f) For school-children in grammar-school grades (not to exceed 500 words).

In Classes *a, b, c, d, e, and f*, brevity of statement without sacrifice of clearness will be of weight in awarding. All leaflets entered must be printed in the form they are designed to take.

- (g) Pictorial booklet for school-children in primary grades and for the nursery.

Class *g* is designed to produce an artistic picture-book for children, extolling the value of fresh air, sunlight, cleanliness, etc., and showing contrasting conditions. "Slovenly Peter" has been suggested as a possible type. Entry may be made in the form of original designs, without printing.

VIII. A gold medal and two silver medals are offered for the best exhibits sent in by any States of the United States illustrating effective organization for the restriction of tuberculosis. Each medal will be accompanied by a diploma or certificate of award.

IX. A gold medal and two silver medals are offered for the best exhibits sent in by any State or country (the United States excluded), illustrating effective organization for the restriction of tuberculosis. Each medal will be accompanied by a diploma or certificate of award.

X. A gold medal and two silver medals are offered for each of the following exhibits. Each medal will be accompanied by a diploma or certificate of award. Wherever possible, each competitor is required to file a brief or printed report.

- (a) For the best contribution to the pathological exhibit.
- (b) For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuberculosis by any State of the United States. Brief required.
- (c) For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuberculosis by any State or country (the United States excluded). Brief required.
- (d) For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuberculosis by any municipality in the world. Brief required.
- (e) For the society engaged in the crusade against tuberculosis having the largest membership in relation to population. Brief required.
- (f) For the plans which have been proven best for raising money for the crusade against tuberculosis. Brief required.
- (g) For the best exhibit of a passenger railway car in the interest of the crusade against tuberculosis. Brief required.
- (h) For the best plans for employment for arrested cases of tuberculosis. Brief required.

XI. Prizes of two gold medals and three silver medals will be awarded for the best exhibit of a workshop or factory in the interest of the crusade against tuberculosis. These medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

The following constitute the committee on prizes:

- Dr. Charles J. Hatfield, Philadelphia, Chairman.
- Dr. Thomas G. Ashton, Philadelphia, Secretary.
- Dr. Edward R. Baldwin, Saranac Lake.
- Dr. Sherman G. Bonney, Denver.
- Dr. John L. Dawson, Charleston, S.C.
- Dr. H. B. Favill, Chicago.
- Dr. John B. Hawes, 2nd, Boston.
- Dr. H. D. Holton, Brattleboro.
- Dr. E. C. Levy, Richmond, Virginia.
- Dr. Charles L. Minor, Ashville, N.C.
- Dr. Estes Nichols, Augusta, Me.
- Dr. M. J. Rosenau, Washington.
- Dr. J. Madison Taylor, Philadelphia.
- Dr. William S. Thayer, Baltimore.
- Dr. Louis M. Warfield, St. Louis.